User Manual

Allen-Bradley

MobileView Tethered Operator Terminal

Catalog Numbers 2711T-B10R1K1, 2711T-B10R1M1, 2711T-T10G1N1, 2711T-T10R1N1, 2711T-BRACKET, 2711T-JBIP20DC, 2711T-5MCABLE, 2711T-10MCABLE, 2711T-15MCABLE

Original Instructions

Allen-Bradley • Rockwell Software

Rockwell Automation

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

	WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
	ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

Labels may also be on or inside the equipment to provide specific precautions.

	SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.
	BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.
	ARC FLASH HAZARD: Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

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Preface Objectives

This preface covers the following topics:

- Purpose of This Manual
- Additional Resources
- Abbreviations

Purpose of This Manual

This manual is a user guide for MobileView™ 2711T tethered operator terminals. It provides procedures to the following:

- Install the MobileView 2711T terminal.
- Make MobileView 2711T terminal connections.
- Operate the MobileView 2711T terminal.
- Troubleshoot the MobileView 2711T terminal.

Additional Resources

These documents contain more information to related products from Rockwell Automation.

Resource	Description
FactoryTalk® View Machine Edition User Guide, publication VIEWME-UM004	Provides comprehensive information about FactoryTalk View Machine Edition, procedures to create and run an automation application, and reference information.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines to install a Rockwell Automation™ industrial system.
Product Certifications website, http://www.rockwellautomation.com/rockwellautomation/certification/overview.page	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at http://www.rockwellautomation.com/literature. To order paper copies of technical documentation, contact your local Allen-Bradley® distributor or Rockwell Automation sales representative.

Abbreviations

This publication can use the following abbreviations.

Abbr	Description
BIOS	Basic input/output system
BSS	Bootable service system
DHCP	Dynamic host configuration protocol
DRAM	Dynamic random access Memory
EEA	European Economic Area
EMC	Electromagnetic Compatibility
ESD	Electrostatic discharge
EWF	Enhanced write filter
IP	Internet protocol
ISO	International Organization for Standardization

Abbr	Description
ISP	Internet service provider
LCD	Liquid crystal display
OS	Operating system
TCP	Transmission control protocol
TFT	Thin film transistor
UPD	Updated program data
USB	Universal serial bus
VMDK	Virtual machine disk
WXGA	Wide extended graphics array

Overview

Chapter Objectives

This chapter provides information on the following topics:

- Overview
- MobileView 2711T Terminal Options
- MobileView 2711T Terminal Sample System Configuration
- MobileView 2711T Terminal Component Description
- MobileView 2711T Terminal Dimensions and Weight
- Membrane Keypad
- Resistive Touch Screen
- USB 2.0 Port

Overview

The MobileView 2711T family of human machine interface (HMI) devices have a rugged design with Microsoft® Windows® 7 compatible electronics. The MobileView 2711T terminal features include a 3-position enable switch, touch and function keys, and stop push buttons(1). These features allow operator access to the safety system of the machine and the general interface to its control system.

The MobileView 2711T terminal is ideal for various applications including:

- Operator panel for machines and plants
- Teach and programming panel for robots
- Test, maintenance, and startup

The MobileView 2711T terminal easily adapts to specific applications by using configurable operating and control elements.

(1) Three of the four available MobileView 2711T terminals are equipped with red-yellow emergency stop (E-stop) push buttons. One of the Mobile View terminals, cat. no. 2711T-T10G1N1, is equipped with a gray stop button that is not classified as an E-stop button.

MobileView 2711T Terminal Options

Table 1 summarizes the options available for the 2711T MobileView tethered operator terminals. A comparative summary of features for the MobileView terminals is in Appendix A, General on page 65.

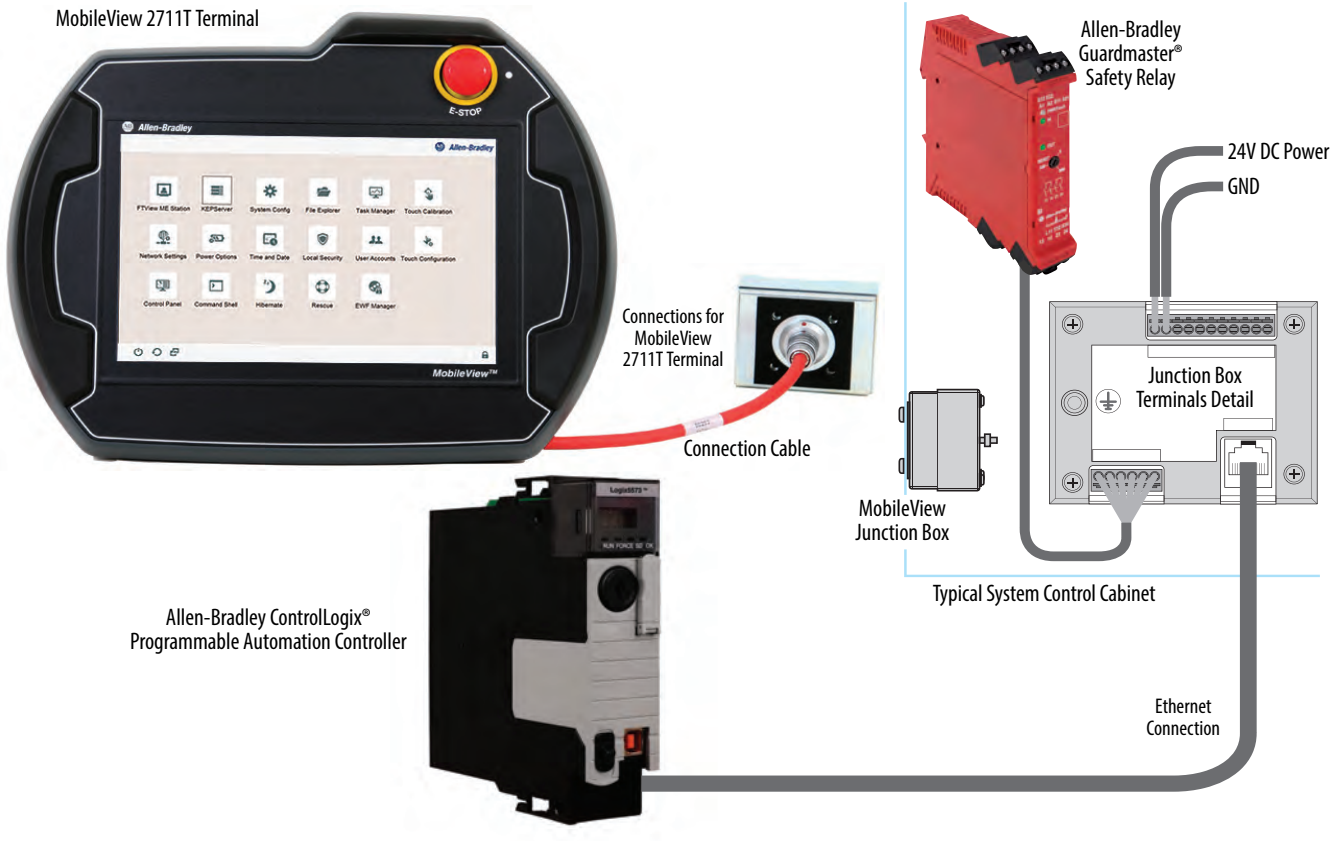
Table 1 - MobileView 2711T Terminal Options

Cat. No. (2711T-)	Display Size (in.)	Touch Screen	Function Keys	3-position Enabling Switch	3-position Key Switch	Momentary Button	2-circuit Push Button	
							E-stop (red/yellow)	Stop (gray)
B10R1K1	10.1	Yes	Yes	Yes	Yes	No	Yes	No
B10R1M1					No	Yes		
T10G1N1			No			No	No	Yes
T10R1N1							Yes	No

MobileView 2711T Terminal Sample System Configuration

Figure 1 shows a sample system configuration of a MobileView 2711T terminal and connection cable that are connected to a MobileView junction box mounted in a control cabinet.

Figure 1 - Sample System Configuration



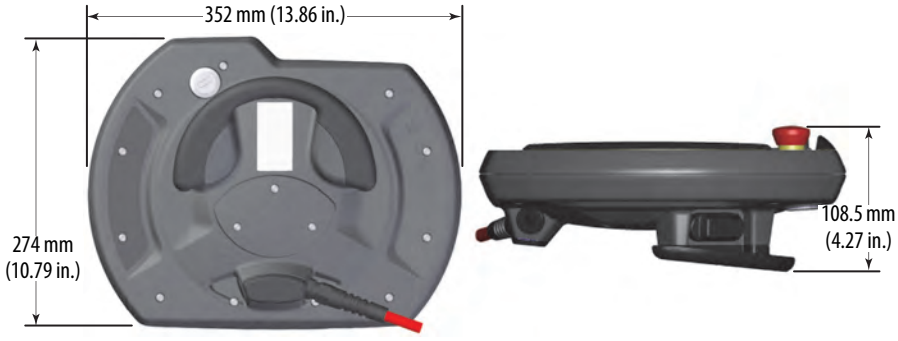
MobileView 2711T Terminal Component Description

The following illustration shows the location of key hardware components.

Item	Description	Standard	Option
1	Membrane keypad with tactile feedback		•
2	10 inch WXGA (1280 x 800 pixels) TFT color LCD display with analog-resistive touch screen	•	
3	Illuminated momentary push button, normally open OR 3-position key switch		• •
4	Red emergency stop (E-stop) button, twin-circuit, N/C contacts, 24V DC, 500 mA maximum(1)	•	
5	Backside membrane keypad with tactile feedback		•
6	USB port	•	
7	Product nameplate	•	
8	Handle to hold the terminal, to store the connection cable, and to attach to the mounting bracket	•	
9	3-position, twin circuit, enabling switch for safety system interface	•	
10	Plug for alternate cable outlet not used (meets degree protection IP65)	•	
11	Back cover to access connection compartment	•	

(1) MobileView terminal cat. no. 2711T-T10G1N1 is equipped with a gray push button that is classified as a stop button but not an E-stop button.

MobileView 2711T Terminal Dimensions and Weight



All MobileView 2711T terminals weigh 1550 g (3.42 lb) without options.

Membrane Keypad

The MobileView 2711T terminal has a membrane keypad with stainless steel dome switches for tactile feedback.

The keys on the MobileView 2711T terminal keypad operate similar to the keyboard of a Windows personal computer. Some 3-key combinations are supported. The following table shows the corresponding keyboard shortcut for each function key.

IMPORTANT The following table applies to Microsoft Windows OS keyboard shortcuts.

All MobileView terminal keys are also mappable within a FactoryTalk Machine Edition (ME) application.

Function Key	Keyboard Shortcut
F1	F1
F2	F2
F3	F3
F4	F4
F5	F5
F6	F6
F7	F7
F8	F8
1+	Right+ALT+F1
1-	Right+ALT+F2

Function Key	Keyboard Shortcut
2+	Right+ALT+F3
2-	Right+ALT+F4
3+	Right+ALT+F5
3-	Right+ALT+F6
4+	Right+ALT+F7
4-	Right+ALT+F8
5+	Right+ALT+F9
5-	Right+ALT+F10
6+	Right+ALT+F11
6-	Right+ALT+F12

Resistive Touch Screen

The touch screen is calibrated before shipment. You can recalibrate the touch screen. For more information, see Touch Calibration on page 46.

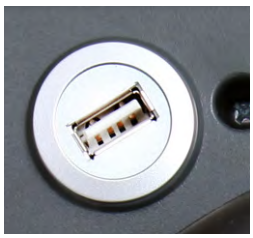
Resistive touch screens are activated when you apply pressure to the touch screen with your finger. You can operate a resistive touch screen while gloves are worn.

Resistive touch screens accept only single finger input. Multi-finger input or 'palm contact' can cause an incorrect touch input.

ATTENTION: Do not use sharp objects, such as a screwdriver, on the touch screen. Scratching the surface of the touch screen can damage the display and compromise the IP rating.

USB 2.0 Port

Use the USB 2.0 port on the back of the terminal to perform the following tasks:



- Connect a USB storage device for the following:
  - Update or restore the BIOS settings
  - Back up or restore the OS image
  - Copy or move files to the internal SD card
- Connect a USB keyboard or mouse
- Connect a USB hub to use multiple USB devices simultaneously

IMPORTANT Any task that is performed through the USB port must be done while the MobileView 2711T terminal is not used for operation.

Do not use or keep a USB storage drive connected in the USB port while the MobileView 2711T terminal is operated.

Notes:

Safety Precautions and Elements

Chapter Objectives

This chapter provides information on the following topics:

- General Safety
- Power Supply
- Enabling Switch
- Emergency Stop (E-stop) Push Button
- MobileView 2711T Terminal Operation

General Safety

It is important to follow the instructions in this document in all circumstances. Failure to do so can result in potential sources of danger or the possible override of safety features that are integrated in the terminal.

Besides the safety instructions in this document, you must also use safety precautions and accident prevention measures that are appropriate to the situation.

ATTENTION: Consider or perform the following as part of general safety.

- Verify that interrupted processes can be properly restarted after power failures or power dips. Do not allow any dangerous operating conditions to occur, even temporarily.
- In situations where faults that occur within the automation system could cause personal injury or significant damage to machinery and equipment, take extra safety measures to confirm that the system remains in an acceptable operating condition.
- Verify that unauthorized persons are not allowed to adjust settings or make memory modifications that can lead to dangerous situations.
- Test the functionality of the E-stop button and enabling switch at least once every six months. Verify that the machine or plant operation stops when the button is pushed.
- If the MobileView 2711T terminal and controller do not communicate with a point-to-point connection, then keypad data could transmit with a delay. An Ethernet switch that is used between the MobileView 2711T terminal and controller is recommended for a higher speed connection.
- When a MobileView 2711T terminal has been exposed to shock (for example, it is dropped on the ground), test to verify that the E-stop button and enabling switch still function properly.
- The USB port on the backside of the MobileView 2711T terminal is only for maintenance. Do not operate the terminal while a USB drive is connected to it.
- Risk assessment and risk reduction are important precautionary measures for machine safety. For more information, see ISO 12100.

Power Supply

The MobileView 2711T terminal meets the Safety Class III requirements for electrical shock in accordance with EN 61131-2. See Electrical on page 65 for the DC power supply requirements for the MobileView 2711T terminal, junction box, and connection cable.

Supply the junction box and terminal exclusively from power sources with safety extra-low voltage (SELV) or protected extra-low voltage (PELV) circuit protection according to EN61131-2.

Specifications of power supply lines in the connection cable are:

- Cross section: 26 AWG (0.126 mm^2)
- Material: zinc-coated copper strand
- Line resistance: <136 Ω/km (<219 Ω/mi)

WARNING: The 24V DC power supply to the control cabinet or operator panel must have a fuse that is rated 3.15A (maximum) and complies with UL 248.

Failure to install a fuse can result in fire from component failure.

Enabling Switch

On the MobileView 2711T terminal, the enabling switch consists of a 3-position operating element with two independent circuits.

WARNING: Only the operator of the enabling device on the MobileView 2711T terminal is allowed in the dangerous area or zone.

The enabling switch is only suitable as a safety device if the operator of the enabling switch on the MobileView 2711T terminal recognizes the dangerous situation and reacts in time to avoid the danger.

Consider reduced speed of movements as a precautionary measure, which can be done through the risk assessment of machinery.

Enabling Switch Connection Example with a Control Relay

Figure 2 on page 16 shows suggested wiring for the enabling switch with an Allen-Bradley safety control relay. If this wiring example is followed, then the safety function meets Category 4, Performance Level e (CAT. 4, PLe) in accordance with ISO 13849-1.

Figure 2 - Enabling Switch Wiring Example

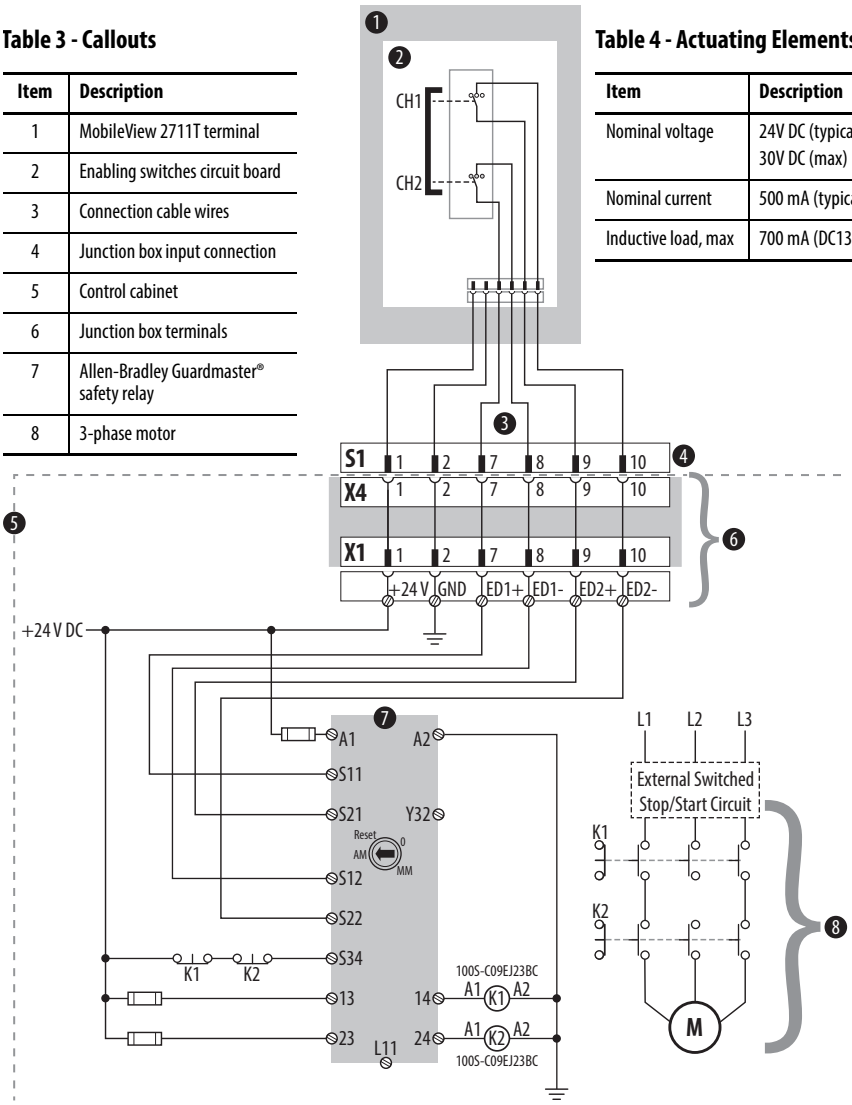


Table 3 - Callouts

Item	Description
1	MobileView 2711T terminal
2	Enabling switches circuit board
3	Connection cable wires
4	Junction box input connection
5	Control cabinet
6	Junction box terminals
7	Allen-Bradley Guardmaster® safety relay
8	3-phase motor

Table 4 - Actuating Elements

Item	Description
Nominal voltage	24V DC (typical) 30V DC (max)
Nominal current	500 mA (typical)
Inductive load, max	700 mA (DC13)

- Only if both channels (CH1 and CH2) of the enabling switch are activated 'simultaneously' do output contacts 13-14 and 23-24 close, and output relays K1 and K2 energize.
- The output relays K1 and K2 do not energize if:
  - Only one enabling channel is activated.
  - The tolerance value for the simultaneity period is exceeded.
  - The feedback control loop at S34 is open.
- If one enabling channel is released after being simultaneously activated, the forced-guided output contacts 13-14 and 23-24 open, and output relays K1 and K2 return to their initial position. The output relays only energize again after both enabling channels have been released and operate simultaneously again.

  In this way, the enabling switches avoid the one single error that makes the safety function inoperable. At the least, one error is recognized at the next cycle.

Foreseeable Misuse of the Enabling Switch

Foreseeable misuse is when the enabling switch is fixed so it stays in the enabling position. The foreseeable misuse of the enabling switch must be restricted. The following measures are recommended, which cause the machine to stop in manual mode.

- Inquiry of the enabling switch when you turn on the machine/plant, and inquiry of the enabling switch when you change the operating mode from automatic to manual (the enabling switch must not be in the enabling position).
- The enabling switch must be released within a defined time period and pushed into the enabling position again, with the time length defined by the activity.

Emergency Stop (E-stop) Push Button

The E-stop push button of the MobileView 2711T terminal meets the requirements of ISO 13850. The button must be designed as a Category 0 or Category 1 emergency stop by the risk assessment for the machine. The connection of the force-guided contacts to an appropriate monitoring system must meet the safety level that results from the risk assessment of the machine. See Risk Assessment of Machinery on page 18.

The E-stop has two potential-free, normally closed contacts to connect external peripherals, a nominal operating voltage of 24V (safety low voltage in accordance with EN61131-2), and a maximum operating current of 500 mA at 24V DC.

WARNING: E-stop push buttons (red-yellow in color) that are not fully functional can have fatal consequences. E-stop push buttons must be effective under all circumstances in all operating modes of a machine or plant.

- E-stop push buttons (red-yellow in color) that are not fully functional can have fatal consequences. E-stop push buttons must be effective under all circumstances in all operating modes of a machine or plant.
- When the E-stop push button is not wired into an emergency stop circuit, the MobileView 2711T terminal must be stored where it is not visible to operators.
- The reset of an activated E-stop push button must not result in the uncontrolled startup of machines or installations.
- The E-stop push button does not replace other safety devices or E-stop buttons mounted directly on machines.
- Do not use MobileView 2711T terminals with red-yellow E-stop buttons in applications where the terminal is plugged in and out of junction boxes frequently or meant for temporary use. Only MobileView 2711T terminals with gray stop push buttons are meant for these applications.
- Test the functionality of the E-stop push button at least once every six months. Verify that machine or plant operation stops when the button is pushed.
- When a MobileView 2711T terminal has been exposed to shock (for example, it is dropped on the ground), test to verify that the E-stop push button still functions properly.

Risk Assessment of Machinery

For the risk assessment for the machinery, use the standards in ISO 12100, “Safety of machinery - General principles for design - Risk assessment and risk reduction.”

Figure 2 on page 16 shows how the MobileView 2711T terminal that uses an Allen-Bradley control relay with the enabling switches. The control system must be designed for the safety level that results from the risk assessment of ISO 12100.

MobileView 2711T Terminal Operation

The MobileView 2711T terminal is a high-quality device that is equipped with state-of-the-art electronics.

ATTENTION: To avoid malfunctions or damage through improper handling, follow these instructions during operation.

- Do not operate the terminal if the cable is damaged or pinched. To avoid damaging the cable, do not place the cable over or around sharp objects.
- When the terminal is not in use, hang the terminal on the mounting bracket (ordered separately) or place inside a cabinet or enclosure.
- To avoid impact damage to the terminal, do not set the terminal on unstable surfaces and keep the cable clear of high traffic areas.
  - ~ If the terminal falls to the ground, verify that the emergency stop switch and enabling switch remain operable before you use the terminal on any machinery.
- To avoid damage to the operating elements, do not set the terminal on its operating side.
- Do not set the terminal near heat sources and avoid direct sunlight.
- Do not expose the terminal to strong magnetic fields or excessive vibrations, dust, or humidity.
- Use a soft, damp cloth with 50% water and 50% isopropyl alcohol to clean the operating panel and operating elements. Do not use solvents, scouring agents, or scrubbing sponges.
- Prevent foreign objects or liquids from getting into the terminal. Check the protective covers of the device regularly. Verify that all screws are firmly tightened and that the housing and cable entrance is not damaged.
- Turn off the power supply before you remove the back cover of the MobileView 2711T terminal. When the back cover is removed, the terminal is sensitive to electrostatic discharge (ESD).
- If the terminal exhibits any anomaly, have the unit thoroughly and fully tested by the manufacturer or authorized repair dealer before you operate the terminal again.
- Do not use sharp objects, such as a screwdriver, on the touch screen. Scratching the surface of the touch screen can damage the display and compromise the IP rating.

Operation

Chapter Objectives

This chapter provides information on the following topics:

- The MobileView 2711T Terminal
- Connect to an Ethernet Network
- The MobileView Junction Box
- Adjust the Touch Screen
- Shut Down the MobileView 2711T Terminal
- Install the Mounting Bracket

The MobileView 2711T Terminal

This section provides details on the following topics:

- Remove the Back Cover
- Install the Connection Cable to the MobileView 2711T Terminal
- Relocate the Connection Cable

Remove the Back Cover

This section shows how to remove the back cover of the MobileView 2711T terminal. When the back cover is removed, you have access to the area that contains all connectors except the USB port.

SHOCK HAZARD: Disconnect all power to the MobileView 2711T terminal before you remove its back cover.

When the back cover is removed, the MobileView 2711T terminal is sensitive to electrostatic discharge (ESD).

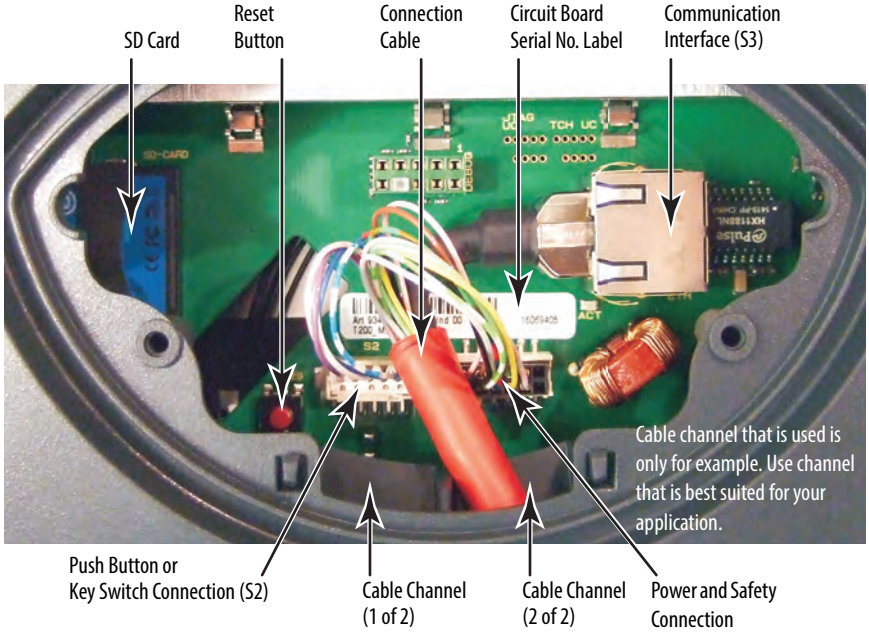
1. Place the MobileView 2711T terminal with the display side down on a stable, flat surface free of debris.
2. Use a Torx T10 screwdriver to remove the three screws that secure the back cover.

TIP The 'Image Applied' label on the back cover was part of the manufacturing process. Therefore, you can remove and discard this label.

3. Carefully lift off the back cover and set it aside.

Figure 3 shows the main circuit board of the MobileView 2711T terminal with the back cover removed.

Figure 3 - Main Circuit Board with Back Cover Removed


SD Card
Reset Button
Connection Cable
Circuit Board Serial No. Label
Communication Interface (S3)
Cable channel that is used is only for example. Use channel that is best suited for your application.
Push Button or Key Switch Connection (S2)
Cable Channel (1 of 2)
Cable Channel (2 of 2)
Power and Safety Connection

IMPORTANT Use the reset button when MobileView 2711T terminal functionality 'locks up' and you cannot restart from the terminal-desktop screen.

Install the Connection Cable to the MobileView 2711T Terminal

The connection cable can be attached on the right or left side of the MobileView 2711T terminal for right- or left-hand operation.

IMPORTANT The MobileView 2711T terminal is shipped with the cable connection port open for right-hand operation. For more information, see Figure 4 on page 21.

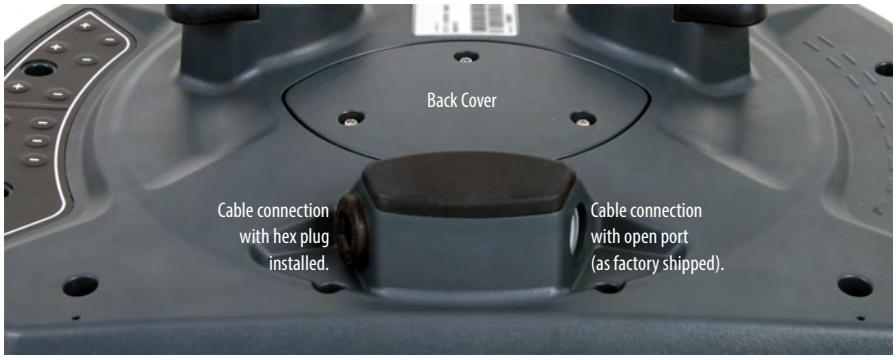
Use the following tools to install the connection cable.

- 19 mm open-end wrench or spanner
- Torx T10 screwdriver
- 8 mm hex key

To install the cable, perform the following steps.

1. Decide on which cable-connection port of the terminal to install the cable; see Figure 4.

Figure 4 - Cable Connections on MobileView 2711T Terminals



IMPORTANT The MobileView 2711T terminal is shipped with the above cable-connection port open for right-hand operation.

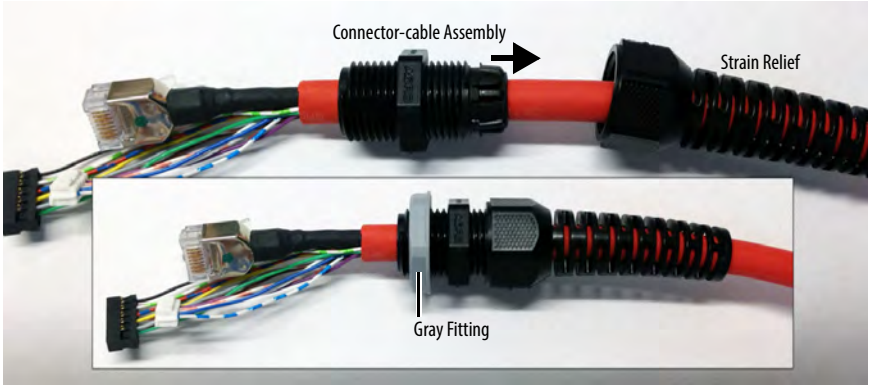
When the cable is connected to this port, you can hold the terminal with your left arm, operate the enabling switch with your left hand, and operate the terminal touch screen with your right hand.

2. If you want left-hand operation, remove the plug with an 8 mm hex key.

   Set the plug aside.

3. Remove the back cover as detailed on page 19.

4. If present, unscrew and remove the gray fitting from the connector-cable mounting assembly.
5. Unscrew the strain relief from the connector-cable mounting assembly to allow the red cable to slide freely.



6. Gently feed the three terminals at the end of the red cable into the chosen cable connection and up through the cable channel.

IMPORTANT	Do not force the cable terminals through the channel. If you encounter resistance, slowly pull the cable towards you until it moves freely again. If necessary, slide the connector-cable assembly farther down the cable to assist cable feed through the channel.

7. When the three terminals reach the main circuit board, carefully plug each terminal into its connection. See Figure 3 on page 20 for where each terminal is connected.

IMPORTANT	Verify that there is a snap sound when you plug each terminal into its corresponding connection, which confirms that the terminal is properly connected.

8. After each terminal is securely connected, reinstall the back cover.

   Use a Torx T10 screwdriver to reinstall the three cover screws.
9. Install the connector-cable mounting assembly into the cable connection of the MobileView 2711T terminal.
10. Reinstall the strain relief to the connector-cable mounting assembly.
11. Tighten the strain relief and the connector-cable mounting assembly with the 19 mm open-end wrench or spanner.

    Torque the connector-cable mounting assembly to 1.2 N•m (10.6 lb•in.).
12. If you chose left-hand operation, reinstall the plug in the open cable-connection port with an 8 mm hex key.

    Torque the plug to 1.2 N•m (10.6 lb•in.).

Relocate the Connection Cable

Use the following tools to relocate the connection cable.

- 19 mm open-end wrench or spanner
- Torx T10 screwdriver
- 8 mm hex key

To relocate the cable, perform the following steps.

1. Remove the plug with the 8 mm hex key from the side where you are going to relocate the cable.

   Set the plug aside.

   TIP See step 5 on page 22 to identify the components in steps 2 and 3.

2. Unscrew the strain relief from the connector-cable mounting assembly with the 19 mm open-end wrench or spanner.
3. Disconnect the connector-cable mounting assembly from the cable connection of the terminal with the 19 mm open-end wrench or spanner.
4. Remove the back cover as detailed on page 19.
5. Disconnect the terminal connections at S2, S3, and S4. See Figure 3 for their locations.
6. Gently pull the cable while you guide the three disconnected terminals out through the cable channel and cable connection.

   IMPORTANT Do not force the disconnected terminals through the channel, or wires can be stripped from their connectors.

7. Follow step 6 through step 11 on page 22 to complete the cable relocation.
8. Reinstall the plug with the 8 mm hex key in the cable connection from which the cable was removed.

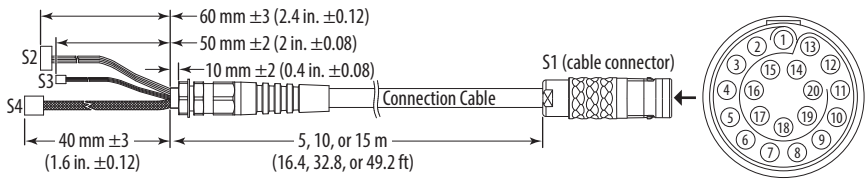
   Torque the plug to 1.2 N•m (10.6 lb•in.).

The MobileView Connection Cable

The connection cable connects the MobileView 2711T terminal to the junction box. The connection cable is 5, 10, or 15 meters (16.4, 32.8, or 49.2 feet) long. This cable withstands water, cleaning agents, motor oil, drilling oils, grease, lubricants, and condensates that contain hydrochloric acid.

2711T Terminal Connection	Terminal No.	Cable Pin No.	Cable Wire Color	Junction Box Input (X4)	Signal Description	Junction Box Output
S2, main connector	1	1	pink	1	24V DC	X1, #1
	2	2	black	2	GND_IN	X1, #2
	3	3	brown	5	E-stop, circuit 2 (+)	X1, #5
	4	4	white-green	6	E-stop, circuit 2 (-)	X1, #6
	5	5	gray	3	E-stop, circuit 1 (+)	X1, #3
	6	6	red-blue	4	E-stop, circuit 1 (-)	X1, #4
	7	7	green-brown	7	Enabling switch, circuit 1 (+)	X1, #7
	8	8	yellow	8	Enabling switch, circuit 1 (-)	X1, #8
	9	9	green	9	Enabling switch, circuit 2 (+)	X1, #9
	10	10	gray-pink	10	Enabling switch, circuit 2 (-)	X1, #10
	11, 12	11	—	11	Not used	—
S3, Ethernet connector	1(1)	13	blue	13	TD+ (transmit)	X3, #1
	2(1)	14	white	14	TD- (transmit)	X3, #2
	3(1)	15	orange	15	RD+ (receive)	X3, #3
	6(1)	16	red	16	RD- (receive)	X3, #6
S4, operating element interface	1	12	violet	12	External 1	X2, #1
	2	17	white-pink	17	External 2	X2, #2
	3	18	white	18	External 3	X2, #3
	4	19	blue	19	External 4	X2, #4
	5	20	white-blue	20	Not used	—

(1) Shielded.



The MobileView Junction Box

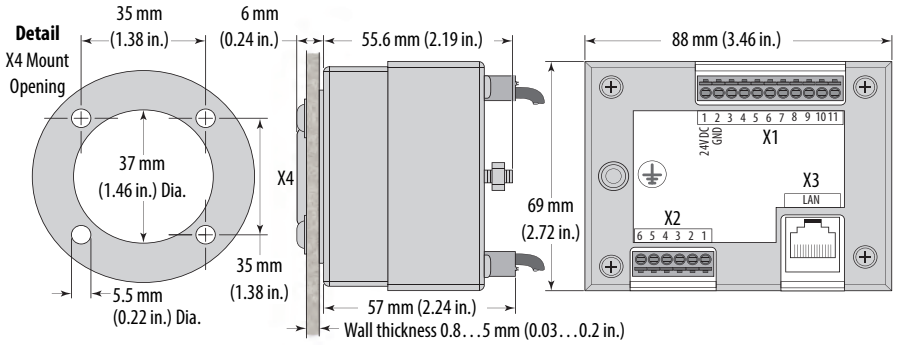
This section provides information on the following topics:

- Mount and Connect the Junction Box
- Connect the MobileView 2711T Terminal to the Junction Box
- Connect to an Ethernet Network

Mount and Connect the Junction Box

The MobileView junction box (2711T-JBIP20DC) integrates the MobileView 2711T terminal into the control system.

Figure 5 - Junction Box Dimensions and Connector Descriptions



Connector	Description
X1	11-pin terminal for power, and safety circuits of E-stop push button and enabling switch of the MobileView 2711T terminal.
X2	6-pin terminal for the optional push button or the optional key switch.
X3	LAN switch for Ethernet connectivity to a control system network.
X4	20-pin female connection for the MobileView connection cable; see page 28 for cable pinout details.

SHOCK HAZARD: Supply the junction box and terminal exclusively from power sources with SELV or PELV circuit protection according to EN61131-2.

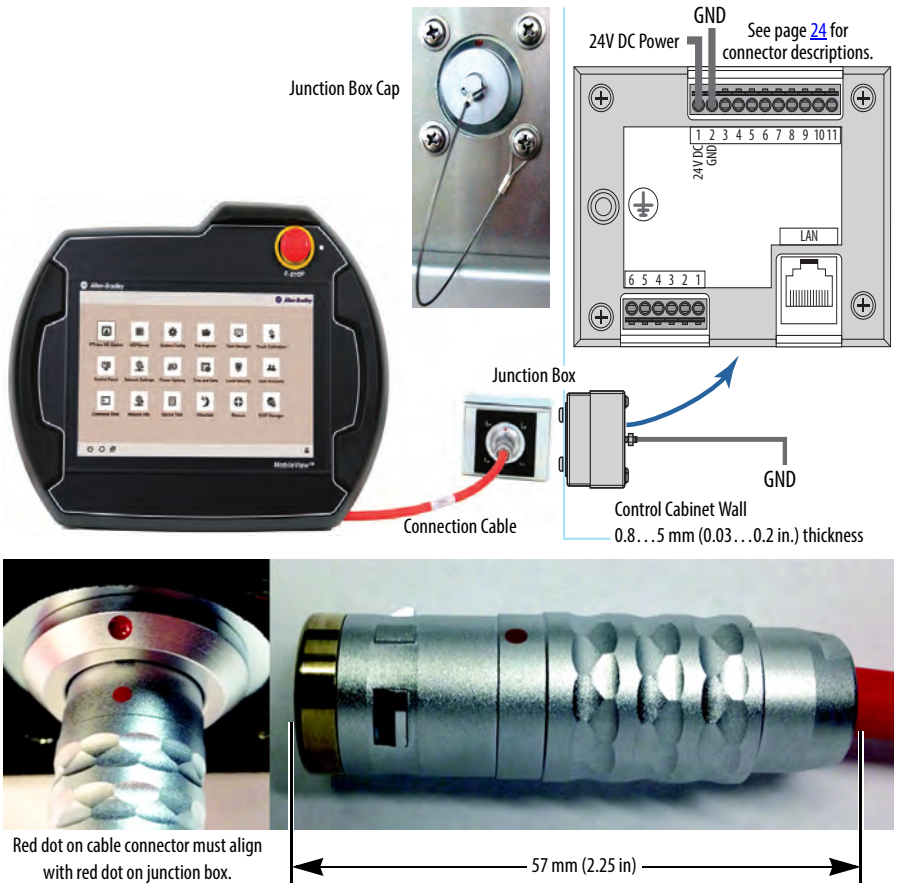
Only connect voltages and circuits that are separated from dangerous voltages (for example, by means of sufficient insulation) to connections, terminals or interfaces up to a rated voltage of 50V DC.

Connect the MobileView 2711T Terminal to the Junction Box

To power up or start the MobileView 2711T terminal, insert the connection cable into the MobileView junction box.

Figure 6 on page 26 shows how the MobileView 2711T terminal connects to the MobileView junction box.

Figure 6 - Typical MobileView 2711T Terminal to Junction Box Connection

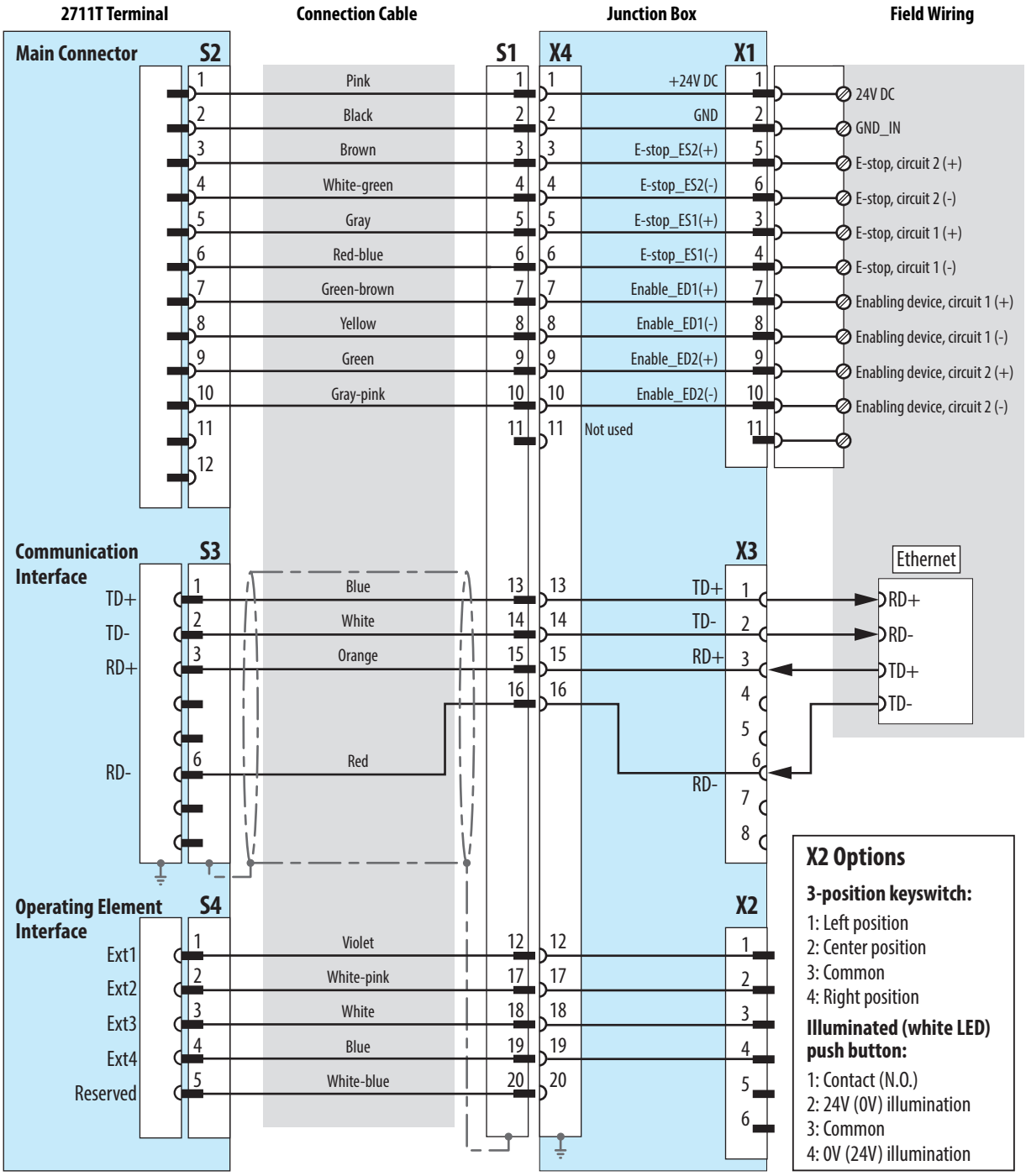

Junction Box Cap
GND
24V DC Power
See page 24 for connector descriptions.
1 2 3 4 5 6 7 8 9 10 11
24V DC
GND
LAN
6 5 4 3 2 1
Junction Box
GND
Control Cabinet Wall
0.8…5 mm (0.03…0.2 in.) thickness
Connection Cable
Red dot on cable connector must align with red dot on junction box.
57 mm (2.25 in)

Junction Box Cap

A cap is provided to cover the junction box opening when the cable is not connected; see Figure 6. The cap protects the opening and its pin connections from environmental elements.

Use one of the two bottom mounting screws of the junction box to attach the tethered cable of the cap to the control cabinet.

Figure 7 - Junction Box Pinout and Wiring


2711T Terminal
Connection Cable
Junction Box
Field Wiring
Main Connector
S2
S1
X4
X1
1 Pink 1 1 +24V DC 1 24V DC
2 Black 2 2 GND 2 GND_IN
3 Brown 3 3 E-stop_ES2(+) 5 E-stop, circuit 2 (+)
4 White-green 4 4 E-stop_ES2(-) 6 E-stop, circuit 2 (-)
5 Gray 5 5 E-stop_ES1(+) 3 E-stop, circuit 1 (+)
6 Red-blue 6 6 E-stop_ES1(-) 4 E-stop, circuit 1 (-)
7 Green-brown 7 7 Enable_ED1(+) 7 Enabling device, circuit 1 (+)
8 Yellow 8 8 Enable_ED1(-) 8 Enabling device, circuit 1 (-)
9 Green 9 9 Enable_ED2(+) 9 Enabling device, circuit 2 (+)
10 Gray-pink 10 10 Enable_ED2(-) 10 Enabling device, circuit 2 (-)
11 11 11 Not used 11
12
Communication Interface
S3
X3
Ethernet
TD+ 1 Blue 13 13 TD+ 1 RD+
TD- 2 White 14 14 TD- 2 RD-
RD+ 3 Orange 15 15 RD+ 3 TD+
16 16 4 TD-
5
RD- 6 Red 6
RD- 7
8
Operating Element Interface
S4
X2
Ext1 1 Violet 12 12 1
Ext2 2 White-pink 17 17 2
Ext3 3 White 18 18 3
Ext4 4 Blue 19 19 4
Reserved 5 White-blue 20 20 5
6
X2 Options
3-position keyswitch:
1: Left position
2: Center position
3: Common
4: Right position
Illuminated (white LED) push button:
1: Contact (N.O.)
2: 24V (0V) illumination
3: Common
4: 0V (24V) illumination

Junction Box Power Supply Requirements

Electrical Specifications	
24V DC power supply	• See Electrical on page 65 for the 24V DC power supply requirements. • See Power Supply on page 14 for additional information.
Ground	Connect the ground screw on the junction box to earth ground (see page 26).

Connect to an Ethernet Network

The MobileView 2711T terminal is equipped with an Ethernet interface that supports TCP/IP protocol at 10/100 Mbps for half/full-duplex communication.

ATTENTION: Under high noise situations, the Ethernet network can have packet loss of <10% at 100Mbps. By design, Ethernet communication resends packets, so there is no data loss but there is a possible reduction in communication speed.

The Ethernet connector at X3 on the junction box provides a connection to an Ethernet network. The connector uses an 8-pin modular jack connector. Pinouts are as follows.

Table 6 - Junction Box Ethernet Pinouts (X3)

Pin #	Ethernet Signal
1	TD+
2	TD-
3	RD+
4	Not used

Pin #	Ethernet Signal
5	Not used
6	RD-
7	Not used
8	Not used

Adjust the Touch Screen

WARNING: If the LCD screen darkens or if the backlight is not functioning properly, the screen may be difficult to read and use of this screen could result in a potentially hazardous outcome. Do not use the LCD touch screen under these circumstances.

The design of the system must take into account the possibility of the LCD screen or LCD touch screen losing functionality and unable to be used to maintain or change control of the system. The touch screen shall not be the single point of control of critical functions and is not intended to replace an E-Stop.

Design of the system should follow all applicable code and good engineering practice. Factors to consider include:

- The possibility of an unreadable LCD screen
- The possibility of an inoperable touch screen
- Unexpected communication errors or delays
- Operator error in the control of the system
- Proper use of E-Stops and other safety practices

The user shall provide means to achieve a safe state during anomalies and to verify that the system has adequate redundancy for critical functions.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Adjust the Display Brightness

MobileView 2711T terminals have an adjustable display-brightness setting that can be adjusted through the Power Options icon on the terminal desktop. The display-brightness default setting is 70%.

IMPORTANT Increasing the brightness from the default setting reduces the life of the LED backlight, particularly at high temperatures.

Recalibrate the Touch Screen

The touch screen is calibrated before shipment. You can recalibrate the touch screen. For more information, see Touch Calibration on page 46.

Shut Down the MobileView 2711T Terminal

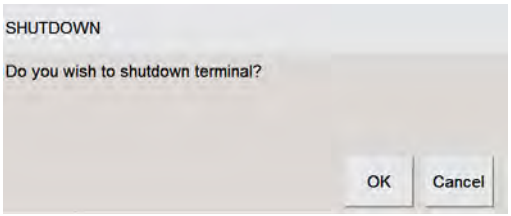
To shut down the MobileView 2711T terminal, perform the following steps.

IMPORTANT If you disabled EWF to make application changes, then you must enable EWF again before your shut down the MobileView 2711T terminal.

Review Enhanced Write Filter (EWF) on page 35 before you shut down the MobileView 2711T terminal.

1. Close any open applications and return to the MobileView 2711T terminal desktop.
2. Tap on the desktop taskbar to shut down the MobileView 2711T terminal.
3. Tap OK on the shutdown confirmation dialog box.

   The terminal shuts down.



Disconnect Power from the MobileView 2711T Terminal

To disconnect power from the terminal, disconnect the tethered cable from the MobileView junction box.

IMPORTANT Do not disconnect the tethered cable from the junction box until you first shut down the MobileView 2711T terminal.

If you disconnect power from the terminal before you first shut it down, then you risk the following:

- You can corrupt the Windows operating system
- You lose application settings that were changed while the terminal was powered up
- You can corrupt any applications that were running, such as FTView ME

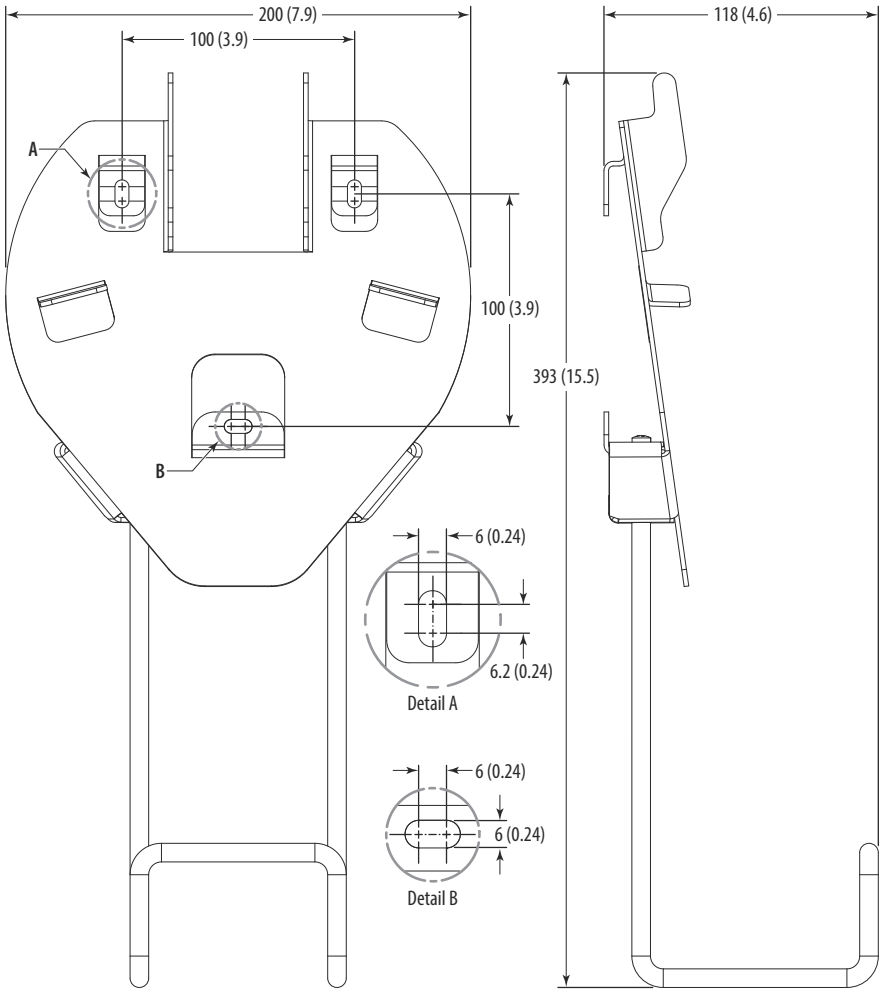
Install the Mounting Bracket

The MobileView mounting bracket (cat. no. 2711T-BRACKET) is used for stationary operation or storage of the terminal. The bracket is an accessory, which means it is ordered separately from the MobileView 2711T terminal.

The mounting bracket ships with a cutout template, publication 2711T-DS001, for installation.

Use suitable flat-head screws (not shipped with product) to mount the bracket.

All dimensions are in mm (in.)



Notes:

BIOS Settings and Desktop Icons

Chapter Objectives

This chapter provides information about the BIOS utility and the icons on the MobileView 2711T terminal desktop.

The chapter covers the following topics:

- End User Setup Procedure
- Desktop Overview
- Enhanced Write Filter (EWF)
- FTView ME Station
- KEP Server
- System Config
- Touch Calibration
- Network Settings
- Restore the Default BIOS
- Change the BIOS Password
- Back Up the Operating System Image
- Restore the Operating System Image

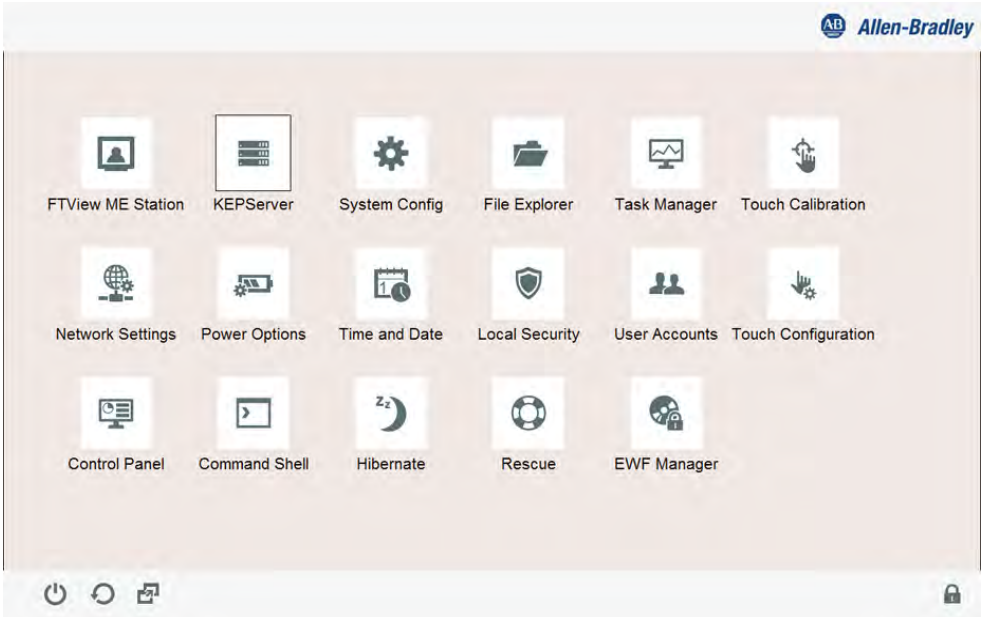
End User Setup Procedure

When a MobileView 2711T terminal is powered up for the first time, there are several set-up messages that appear as part of the Microsoft Windows End User Setup procedure.

If your MobileView 2711T terminal must be reformatted, then see 'Initial Configuration of the Windows Operating System' in publication 2711T-QS001, MobileView Tethered Operator Terminal Quick Start, for this set-up procedure.

Desktop Overview

The desktop is the main graphical interface of the MobileView 2711T terminal. Each desktop icon provides access to information or configurable options.



Button	Description
FTView ME Station	Use to access, configure, and run FactoryTalk View Machine Edition software. For more information, see page 36.
KEP Server	Use to access, configure, and run KEPServer Enterprise software. For more information, see page 40.
System Config	Use to update the BIOS or firmware of the MobileView 2711T terminal. For more information, see page 41.
File Explorer	Use to browse the MobileView 2711T terminal file system and storage devices.
Task Manager	Use to manage running applications and services on the MobileView 2711T terminal. Can be beneficial for troubleshooting.
Touch Calibration	Use to calibrate the MobileView 2711T touchscreen. For more information, see page 46.
Network Settings	Use to configure and establish network communication. For more information, see page 44.
Power Options	Use to adjust the MobileView 2711T terminal power plan, such as display brightness and sleep options.
Time and Date	Use to adjust the MobileView 2711T terminal system clock.
Local Security	Use to configure the MobileView 2711T terminal local security policy. Use only for advanced security configuration.
User Accounts	Use to manage Windows user accounts within the MobileView 2711T terminal operating system.
Touch Configuration	Use to manage touch options, such as double-tap and right-click. For more information, see page 38.
Control Panel	Use to adjust the MobileView 2711T terminal operating system settings, such as system security, network, and hardware configuration.
Command Shell	Use for MobileView 2711T terminal advanced setup and configuration functions. Can be beneficial for troubleshooting.
Hibernate	Use to temporarily suspend power to the MobileView 2711T terminal without any data or state loss risk.
Rescue	Use to rescue the MobileView 2711T terminal when it gets 'stuck' in an application loop. For more information, see page 46.
EWF Manager	Use to enable or disable Enhanced Write Filter (EWF). For more information, see page 35.

Buttons on the Taskbar

The icons on the terminal-desktop taskbar serve the following functions.

Button	Description
	Tap to power down the MobileView 2711T terminal.
	Tap to reboot (restart) the MobileView 2711T terminal.
	Tap to toggle between open tasks and applications on the MobileView 2711T terminal (similar to Alt+Tab on a keyboard).
	Status indicator for Enhanced Write Filter (EWF). Closed lock signifies EWF is enabled and open lock signifies EWF is disabled.

Enhanced Write Filter (EWF)

The Enhanced Write Filter (EWF) is a feature within the operating system of the MobileView 2711T terminal. When EWF is enabled, the system volume within the operating system is write-protected, which provides an additional level of robustness for the operating system.

Before you configure applications on the MobileView 2711T terminal, verify that EWF is disabled. On the terminal-desktop taskbar, the EWF status icon is unlocked when EWF is disabled.

IMPORTANT

By default, EWF is disabled. EWF must be disabled or any application changes are lost when the MobileView 2711T terminal is powered down.

Rockwell Automation recommends that you enable EWF to preserve operating system and application integrity, especially for where the terminal is expected to be frequently connected and disconnected from junction boxes.

Rockwell Automation recommends that you only enable EWF after applications on the MobileView 2711T terminal such as FactoryTalk View Machine Edition (ME) have been set up.

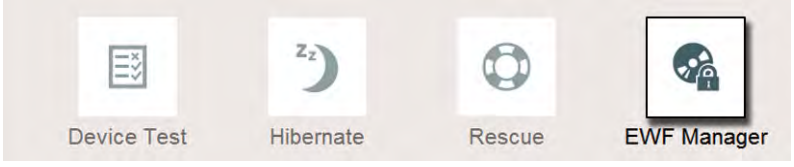
EWF applies only to the internal storage drive (C:) of the MobileView 2711T terminal and not to the internal Secure Digital (SD) card drive (D:).

To **enable EWF**, perform the following steps.

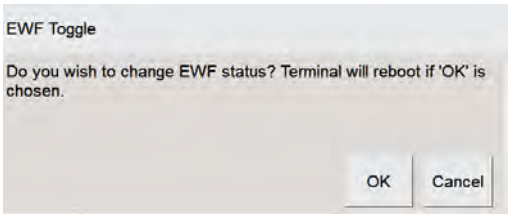
1. On the terminal-desktop taskbar, verify that the EWF is unlocked.

   EWF is enabled if the status icon is locked ; EWF is disabled if the status icon is unlocked . By default, EWF is disabled.

2. On the MobileView 2711T terminal desktop, tap the EWF Manager.



3. The following screen appears. Tap OK.



If you change the EWF status, then the MobileView 2711T terminal automatically restarts.

4. When the terminal desktop reappears, the EWF status icon on the terminal-desktop taskbar is locked to signify EWF is enabled.

IMPORTANT Rockwell Automation recommends that you only enable EWF after applications on the MobileView 2711T terminal such as FactoryTalk View Machine Edition (ME) have been set up.

If you make application changes with EWF enabled, then those changes are lost when the MobileView 2711T terminal is powered down or rebooted.

FTView ME Station

FactoryTalk View Machine Edition (ME) Station software on your MobileView 2711T terminal is dependent on a run-time application file that is configured on a separate personal computer with FactoryTalk View Studio software installed.

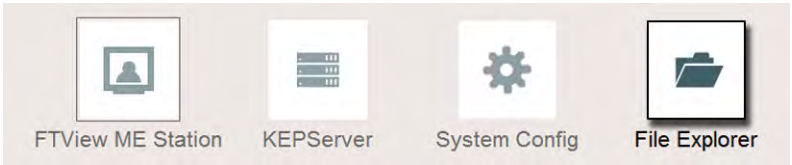
IMPORTANT EWF must disabled before you configure FTView ME settings, and then enabled afterwards. For more information, see Enhanced Write Filter (EWF) on page 35.

To initially configure FactoryTalk View ME Station, perform the following steps.

1. Create a run-time application file (.MER) with FactoryTalk View Studio software.
2. Copy this file to a USB storage device.

ATTENTION: You cannot use the FactoryTalk ME transfer utility to transfer the MER file from the personal computer to the MobileView 2711T terminal.

3. Insert the USB storage device into the USB port on the back of the MobileView 2711T terminal.
4. From the MobileView desktop, tap File Explorer.



5. Browse to find the USB storage device.

6. Touch and hold for about 3 seconds, and then release.

   A pull-down menu appears.

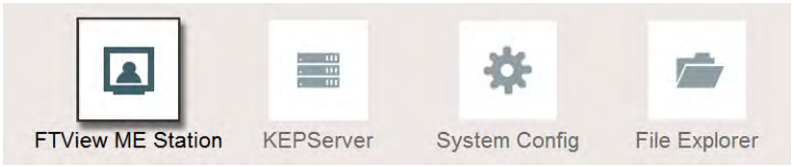
7. Tap Copy.
8. Browse to find the internal 'SD-CARD (D:)' drive of the MobileView 2711T terminal.
9. Touch and hold for about 3 seconds, and then release.

   A pull-down menu appears.

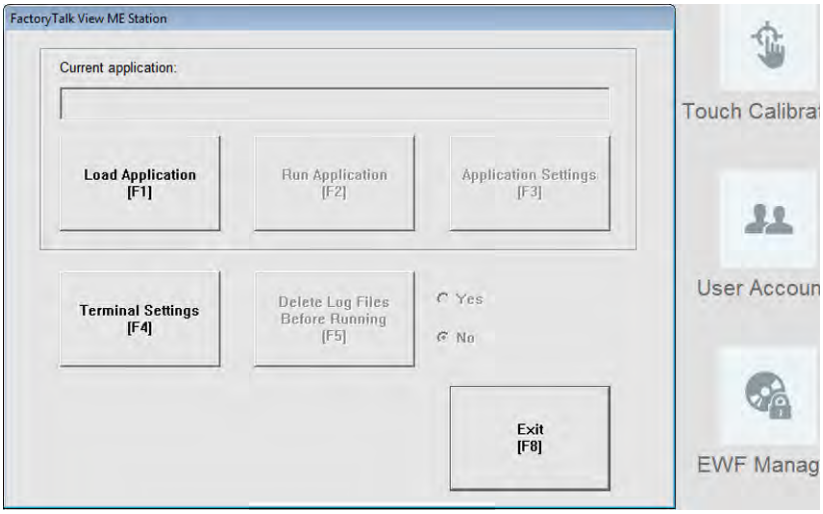
10. Tap Paste.

    The run-time application file (.MER) needed for FTView ME Station now resides on the internal SD card drive.

11. Close File Explorer.
12. On the MobileView 2711T terminal desktop, tap FTView ME Station.



This dialog appears.



13. Tap Load Application or F1 to load the MER file.
14. Browse to the internal SD card drive (D:) and tap the MER file that you wish to load.
15. Tap Open.

    You are prompted if you wish to replace the current communication configuration of the terminal with the communication configuration of the application.

16. Depending on your application, tap Yes or No.

    Wait while the application loads.

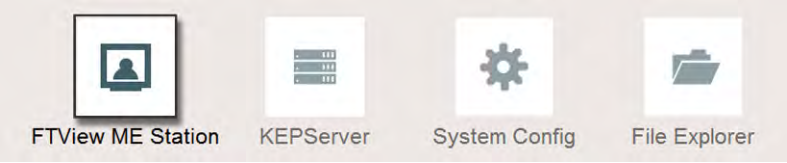
17. Tap Terminal Settings or F4 to configure FactoryTalk ME Station-specific settings (for example, for FactoryTalk View ME Station to automatically start on a MobileView terminal power up or reboot).
18. If desired, tap Application Settings or F3 to configure FactoryTalk View ME Station application-specific settings (for example, device shortcuts or start-up language).
19. Tap the MobileView terminal-desktop to access EWF Manager and enable EWF; see page 35 for how to enable EWF.

IMPORTANT	Do not tap the Exit button (F8) in FactoryTalk View ME Station before you access EWF Manager on the MobileView terminal-desktop.

After you enable EWF, the MobileView 2711T terminal automatically restarts.

20. If FactoryTalk View ME Station was configured in step 17 to automatically start after any MobileView terminal startup or reboot, then the application automatically starts after step 19.

If FactoryTalk was not configured to automatically start, then you must tap the FactoryTalk View ME Station icon on the MobileView terminal-desktop to load and run the application.



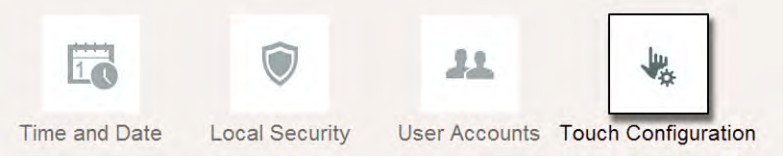
Right-click Touch Screen Functionality and FactoryTalk View ME Station

If your FactoryTalk View ME Station uses momentary push buttons and you require long press times to activate those buttons, then the right-click touch screen functionality within the MobileView operating system must be disabled. By default, right-click functionality is enabled for the touch screen.

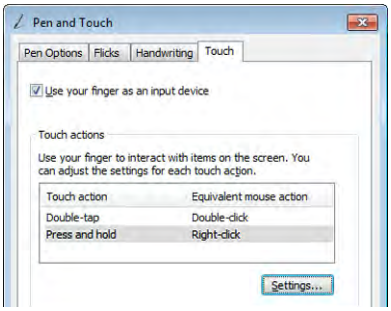
IMPORTANT	EWF must be disabled before you change right-click functionality, and then enabled afterwards. For more information, see Enhanced Write Filter (EWF) on page 35.

To disable right-click touch screen functionality, perform the following steps.

1. From the MobileView 2711T terminal desktop, tap Touch Configuration.

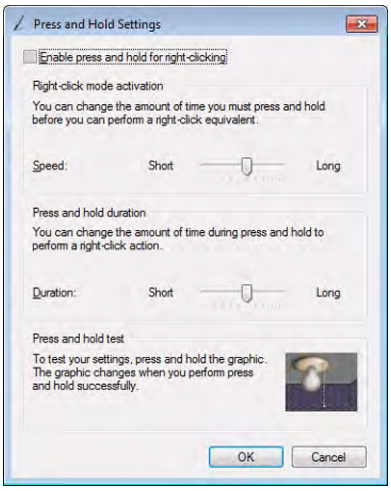


2. On the Touch tab of the Pen and Touch dialog box, tap Press and hold.



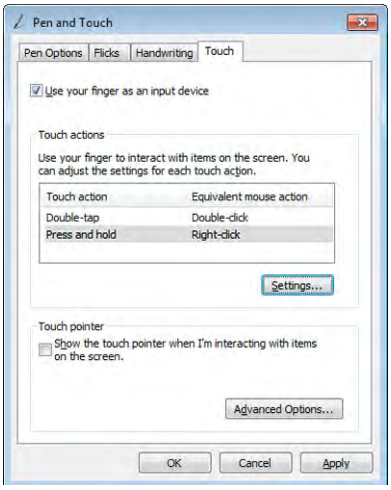
With Press and hold highlighted, tap Settings.

3. Deselect the Enable press and hold for right-clicking box.


Press and Hold Settings
Enable press and hold for right-clicking
Right-click mode activation
You can change the amount of time you must press and hold before you can perform a right-click equivalent.
Speed:
Short
Long
Press and hold duration
You can change the amount of time during press and hold to perform a right-click action.
Duration:
Short
Long
Press and hold test
To test your settings, press and hold the graphic. The graphic changes when you perform press and hold successfully.
OK
Cancel

Tap OK.

4. On the Touch tab, tap Apply.



Right-click functionality for the touch screen is now disabled.

5. Enable EWF to save your settings. For more information, see Enhanced Write Filter (EWF) on page 35.

KEP Server

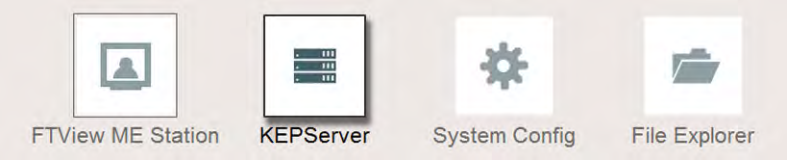
KEPServer is a flexible and scalable solution that is designed for quick and easy configuration of your communications. Use this application to configure communication with third-party hardware devices.

IMPORTANT KEPServer is an application only for administrators. For more information on how to configure KEPServer Enterprise, see publication VIEWME-UM004, FactoryTalk View Machine Edition User's Guide.

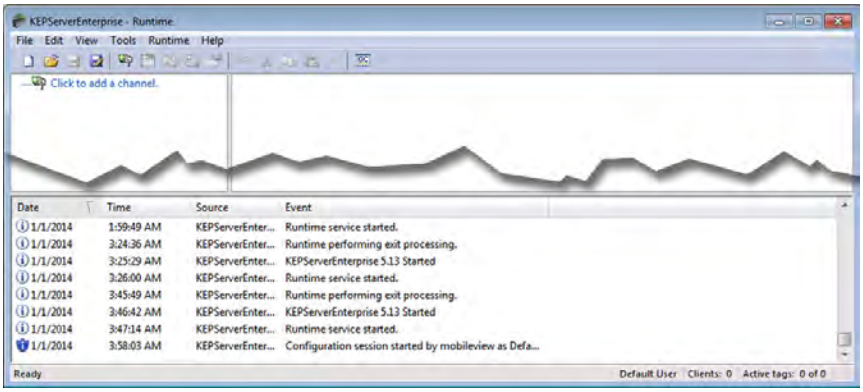
You must disable EWF before you configure FactoryTalk View ME Station settings, and then enable EWF again afterwards. For more information, see Enhanced Write Filter (EWF) on page 35.

To launch KEPServer, perform the following steps.

1. From the desktop, tap KEPServer.



2. Use KEPServer Enterprise to configure your communication channels.


KEPServerEnterprise - Runtime
File Edit View Tools Runtime Help
Click to add a channel.
Date Time Source Event
1/1/2014 1:59:49 AM KEPServerEnter... Runtime service started.
1/1/2014 3:24:36 AM KEPServerEnter... Runtime performing exit processing.
1/1/2014 3:25:29 AM KEPServerEnter... KEPServerEnterprise 5.13 Started
1/1/2014 3:26:00 AM KEPServerEnter... Runtime service started.
1/1/2014 3:45:49 AM KEPServerEnter... Runtime performing exit processing.
1/1/2014 3:46:42 AM KEPServerEnter... KEPServerEnterprise 5.13 Started
1/1/2014 3:47:14 AM KEPServerEnter... Runtime service started.
1/1/2014 3:58:03 AM KEPServerEnter... Configuration session started by mobileview as Defa...
Ready
Default User Clients: 0 Active tags: 0 of 0

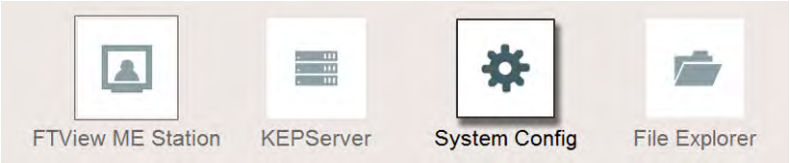
System Config

Use the System Config icon to update the BIOS or firmware of the MobileView 2711T terminal.

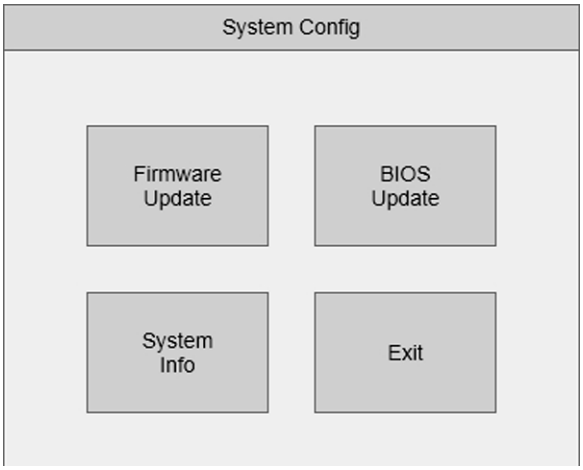
IMPORTANT Only someone with administrator privileges can perform BIOS or firmware updates.

You must disable EWF before you configure System Config settings, and then enable EWF again afterwards. For more information, see Enhanced Write Filter (EWF) on page 35.

1. On the MobileView 2711T terminal desktop, tap System Config.



This dialog box appears.



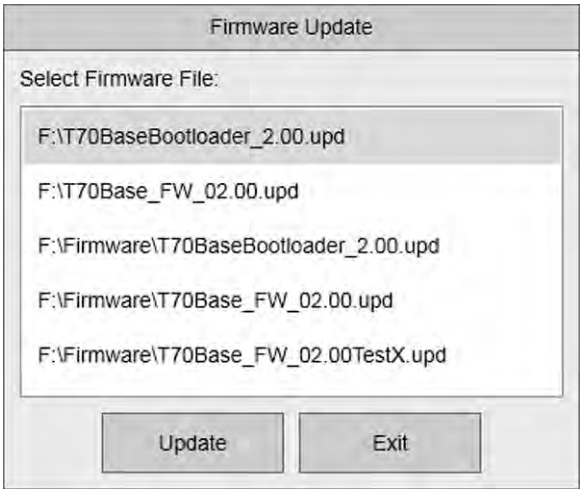
Update the Firmware

To update the firmware, perform the following steps.

1. Insert a USB storage device with a UPD file into the USB port on the back of the MobileView 2711T terminal.
2. On the System Config dialog box, tap Firmware Update.

Firmware Update automatically finds available firmware files.

3. Tap to select a UPD file for the update.



TIP The appropriate UPD file is a bootloader flash file, which usually contains 'BL' or 'Bootloader' in the file name and has a maximum file size of 32 KB.

4. Tap Update.

   A dialog box appears when the update is completed.

5. Tap OK.
6. Tap Exit on the Firmware Update screen.
7. Tap Exit on the System Config screen.

Update the BIOS

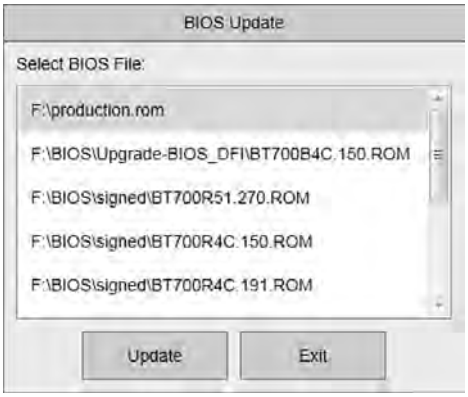
To update the BIOS, perform the following steps.

IMPORTANT See page 47 to restore the BIOS to its default settings, and page 49 to change the BIOS password.

1. Insert a USB storage device with a valid ROM file into the USB port on the back of the MobileView 2711T terminal.
2. On the System Config dialog box, tap BIOS Update.

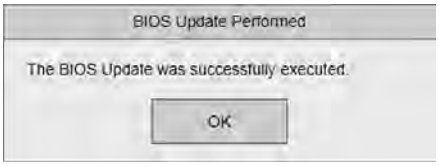
BIOS Update automatically finds available BIOS files.

3. Tap to select a ROM file for the update.



4. Tap Update.

   A dialog box appears when the update is completed.

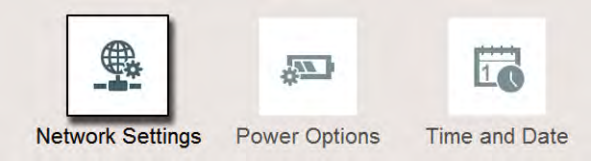


5. Tap OK.
6. Tap Exit on the BIOS Update screen.
7. Tap Exit on the System Config screen.

Network Settings

To configure the Ethernet communications of your MobileView 2711T terminal, perform the following steps.

1. On the MobileView 2711T terminal desktop, tap Network Settings.



The Local Area Connection icon appears with the network cable unplugged.

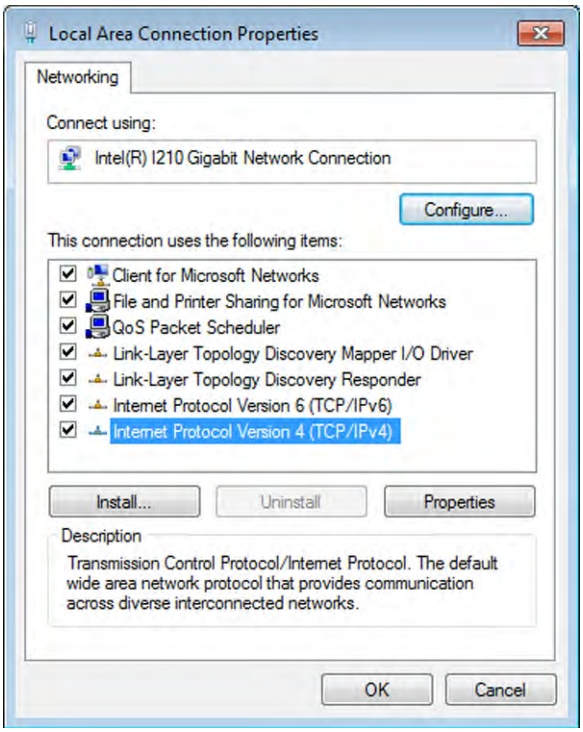
FTView ME Station
Control Panel ▸ Network and Internet ▸ Network Connections ▸
Organize
Local Area Connection
Network cable unplugged
Intel(R) I210 Gigabit Network Con...

TIP You can also tap Control Panel>Network and Internet>Network Connections to access the same screen.

2. Touch and hold for about three seconds, and then release.

   A right-click menu appears.

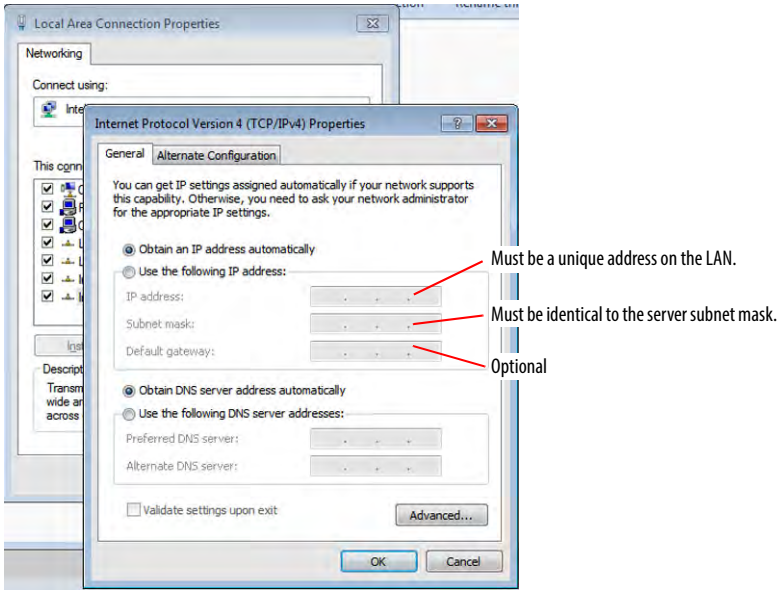
3. Tap Properties.
4. On the Properties dialog box, tap to select Internet Protocol Version 4 (TCP/IPv4).



5. Tap Properties.

6. On the General tab, tap one of the following buttons:
   - 'Obtain an IP address automatically' if you have a DHCP server on your network that assigns IP addresses to the MobileView 2711T terminal.
   - 'Use the following IP address' to assign a static IP address. Complete the three text boxes with information from your network administrator or ISP.

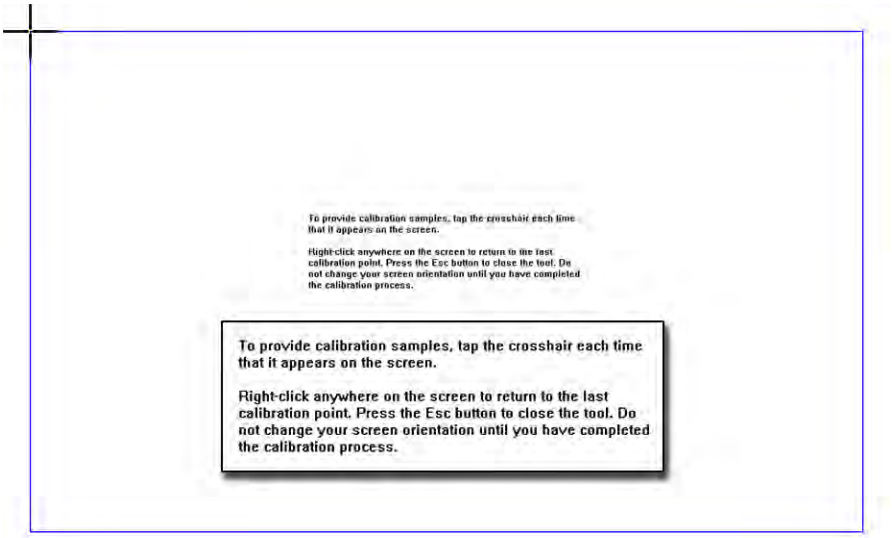
     Use the onscreen keyboard or an external keyboard to enter the text.


Local Area Connection Properties
Networking
Connect using:
Internet Protocol Version 4 (TCP/IPv4) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel
Must be a unique address on the LAN.
Must be identical to the server subnet mask.
Optional

7. Tap OK.
8. Tap Close on the Local Connection Properties dialog.
9. Close the Network Connections window to return to the MobileView 2711T terminal desktop.

Touch Calibration

Use this feature to calibrate touchscreen sensitivity. Follow the instructions that are displayed during calibration.


To provide calibration samples, tap the crosshair each time that it appears on the screen.
Right-click anywhere on the screen to return to the last calibration point. Press the Esc button to close the tool. Do not change your screen orientation until you have completed the calibration process.
To provide calibration samples, tap the crosshair each time that it appears on the screen.
Right-click anywhere on the screen to return to the last calibration point. Press the Esc button to close the tool. Do not change your screen orientation until you have completed the calibration process.

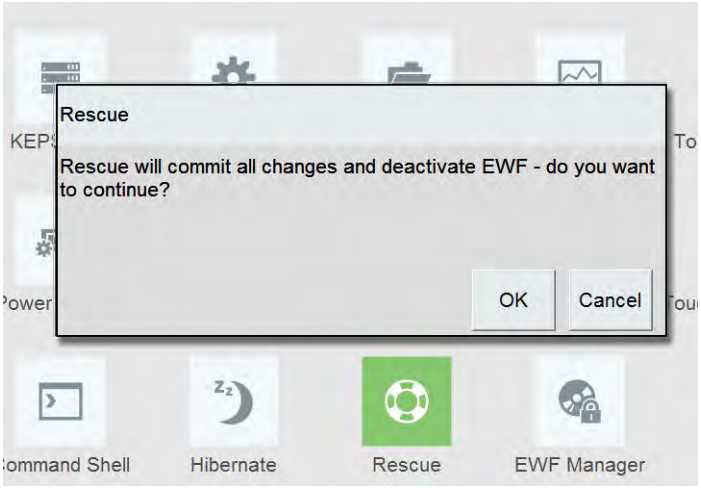
Rescue

When the following conditions are present, the MobileView 2711T terminal can get 'stuck' in an application loop:

- The FactoryTalk ME application does not have a shutdown button
- EWF is enabled with the FactoryTalk ME application set to auto-run
- Hibernate once, resume many (HORM) is being used

To resolve this loop with Rescue, perform the following steps.

1. On the MobileView 2711T terminal desktop, tap Rescue.
2. This dialog box appears.



3. Tap OK.

   The MobileView 2711T terminal automatically restarts.

Restore the Default BIOS

To restore the BIOS to the settings that were shipped with the MobileView 2711T terminal, perform the following steps.

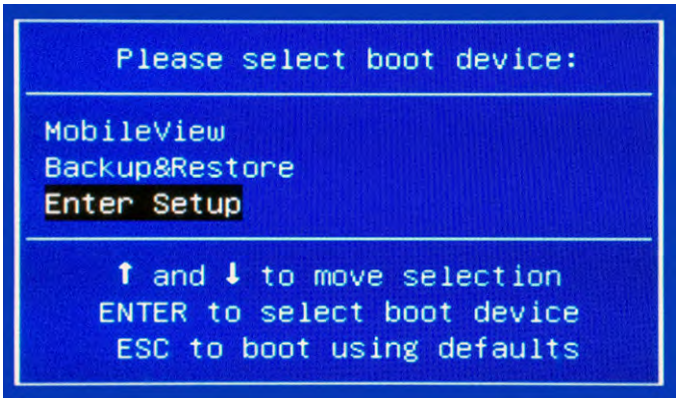
IMPORTANT Only someone with administrator privileges can restore the BIOS settings.

You need an external keyboard that is connected to the USB port on the back of the MobileView 2711T terminal to change BIOS information.

1. Restart or power up the MobileView 2711T terminal.
2. Press F7 on the front of the MobileView 2711T terminal when the start-up screen appears.

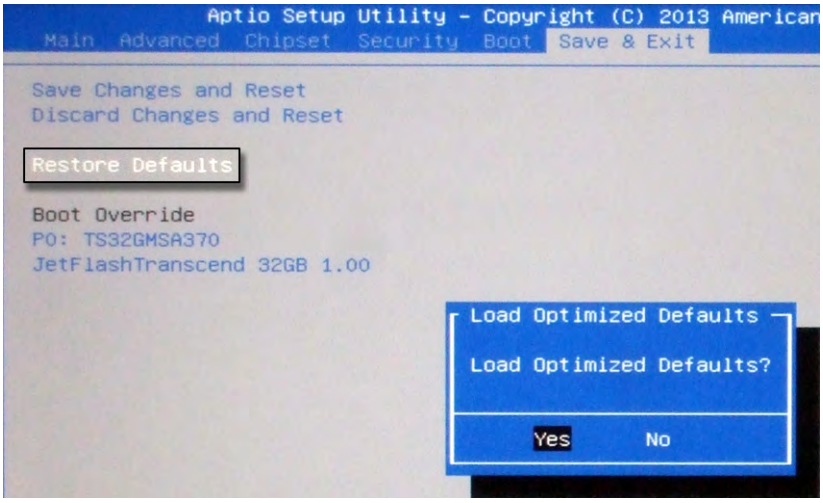
3. With the external keyboard, enter the default BIOS password.
   - The administrator default password is 4041
   - The user default password is 7090

4. Toggle down to Enter Setup and press Enter on the keyboard.

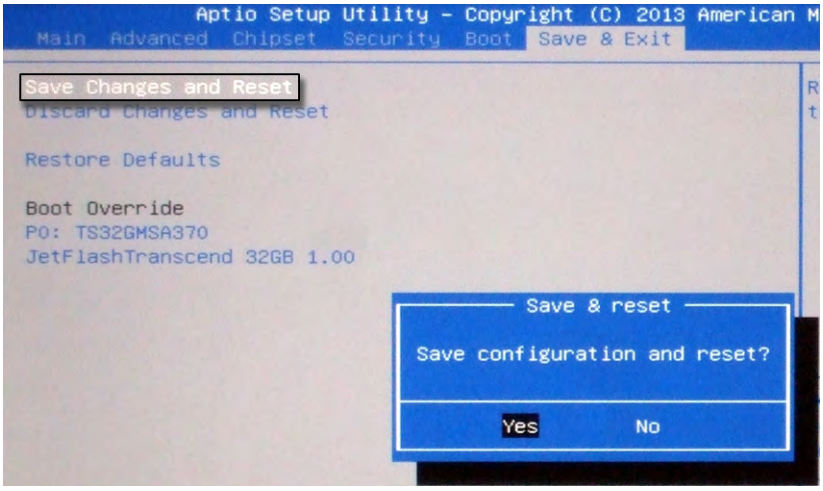


5. Toggle across to the Save and Exit tab.

6. On the Save and Exit tab, toggle down to Restore Defaults and press Enter on the keyboard.
7. Tap Yes on the confirmation dialog box, and press Enter on the keyboard.



8. Toggle up to Save Changes and Reset and press Enter on the keyboard.
9. Tap Yes on the confirmation dialog box and press Enter on the keyboard.



The MobileView 2711T terminal automatically restarts with the default BIOS settings.

Change the BIOS Password

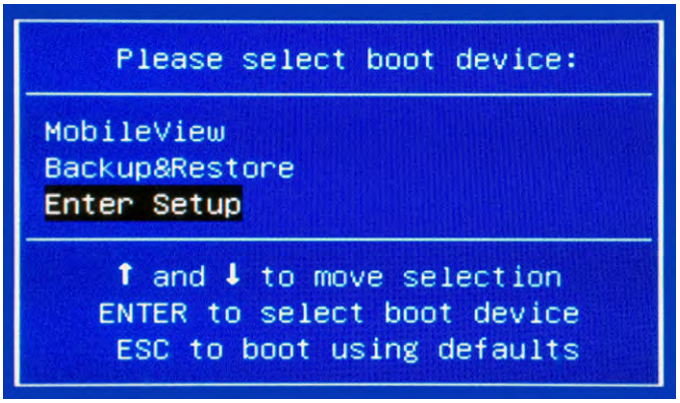
To change the BIOS password from the default that is shipped with the MobileView 2711T terminal, perform the following steps.

IMPORTANT Only someone with administrator privileges can change the BIOS password.

You need an external keyboard that is connected to the USB port on the back of the MobileView 2711T terminal to change BIOS information.

1. Restart or power up the MobileView 2711T terminal.
2. Press F7 when the start-up screen appears.

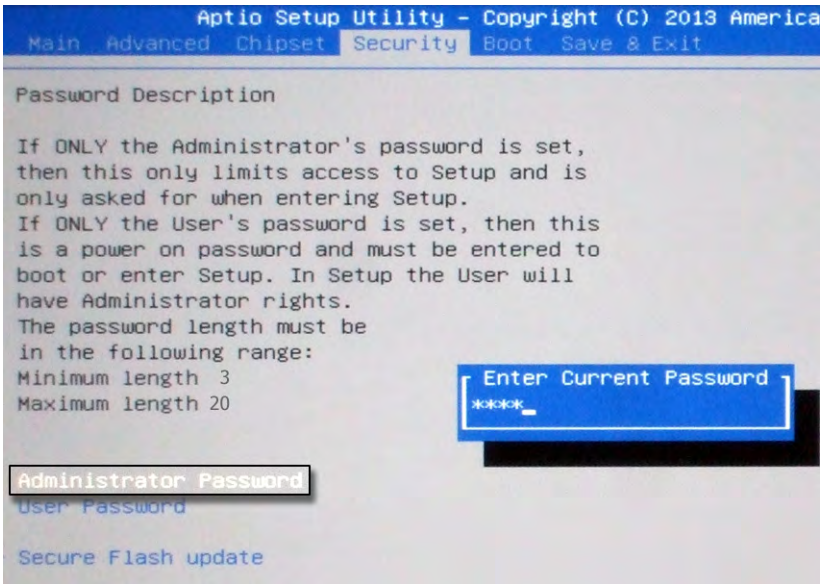
3. With the external keyboard, enter the default BIOS password. See step 3 on page 47 for the appropriate password.
4. On the boot device screen, toggle down to Enter Setup and press Enter on the keyboard.



The BIOS set-up utility appears on the Main tab.

5. Toggle across to the Security tab.
6. On the Security tab, toggle down to Administrator Password or User Password, and press Enter.
7. With the external keyboard, enter the current default BIOS password and press Enter.

   See step 3 on page 47 for the appropriate password.

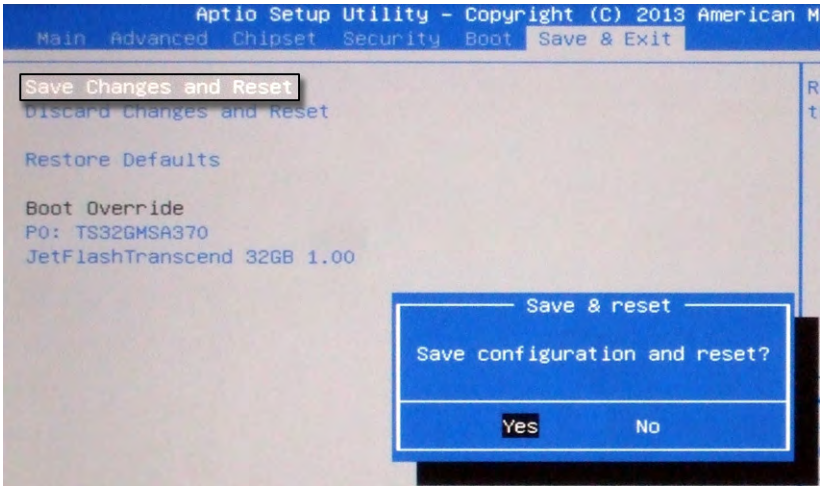

Aptio Setup Utility – Copyright (C) 2013 America
Main Advanced Chipset Security Boot Save & Exit
Password Description
If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length 3
Maximum length 20
Enter Current Password
****
Administrator Password
User Password
Secure Flash update

8. Read Password Description to assist with your new password.
9. With the external keyboard, enter your new password and press Enter.

Aptio Setup Utility – Copyright (C) 2013 Americ
Main Advanced Chipset Security Boot Save & Exit
Password Description
If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length 3
Maximum length 20
Create New Password
Administrator Password
User Password
Secure Flash update

10. After you create your password, toggle up and across to the Save and Exit tab.
11. On the Save and Exit tab, toggle down to Save Changes and Reset.
12. Press Enter on the keyboard.

13. Select Yes on the confirmation dialog box and press Enter on the keyboard.



The MobileView 2711T terminal automatically restarts with the new password.

Back Up the Operating System Image

To back up the operating system (OS) image on the MobileView 2711T terminal, perform the following steps.

IMPORTANT If you back up the OS image, then certain preparations (sysprep) are needed for proper EWF functionality. For more information, see the Rockwell Knowledgebase.

You need an external keyboard and a USB storage device (at least 32 GB) to back up the OS image.

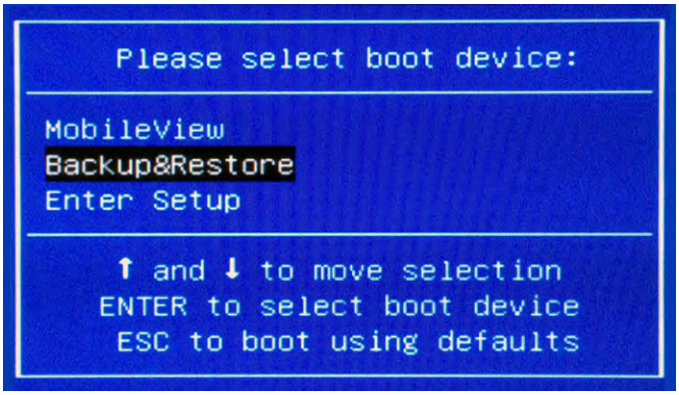
There is only one USB port on the back of the MobileView 2711T terminal, so Rockwell Automation recommends that you use a USB hub to connect both devices simultaneously.

1. Restart or power up the MobileView 2711T terminal.
2. Press F7 when the start-up screen appears.

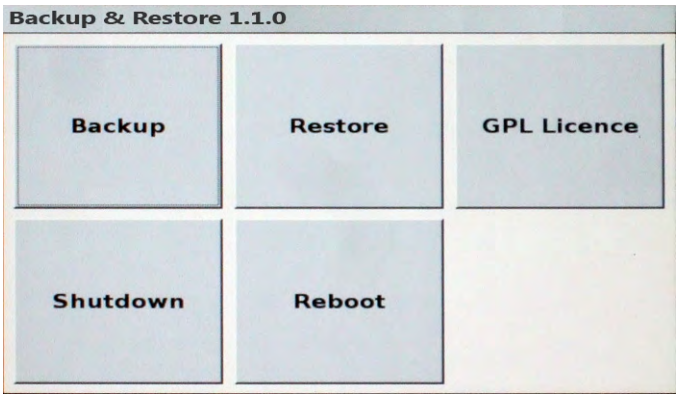
3. With the external keyboard, enter the BIOS password. See step 3 on page 47 for default passwords.

IMPORTANT The default passwords only work if you have not changed them through the steps in Change the BIOS Password on page 49.

4. On the boot device screen, toggle down to Backup and Restore, and press Enter on the keyboard.



The Bootable Service System (BSS) screen appears.



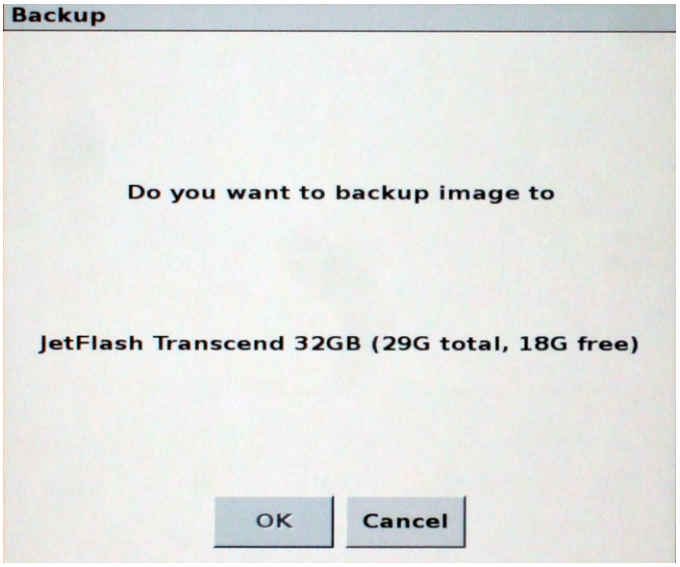
TIP The BSS screen can take up to 60 seconds to appear.

5. From the BSS screen, tap Backup.
6. From the BSS Select Drive screen, tap to select the attached USB storage drive for where to back up.

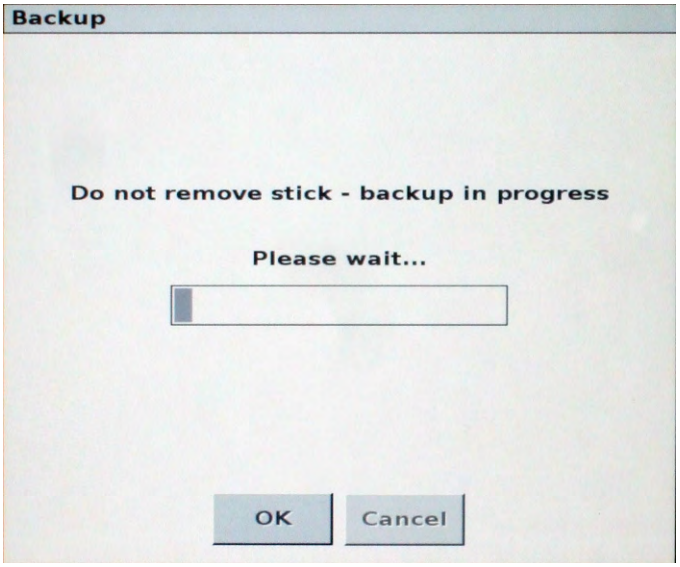
TIP Use a USB storage drive that is at least 32 GB.

7. Tap Backup.

8. On the back-up confirmation dialog box, tap OK.

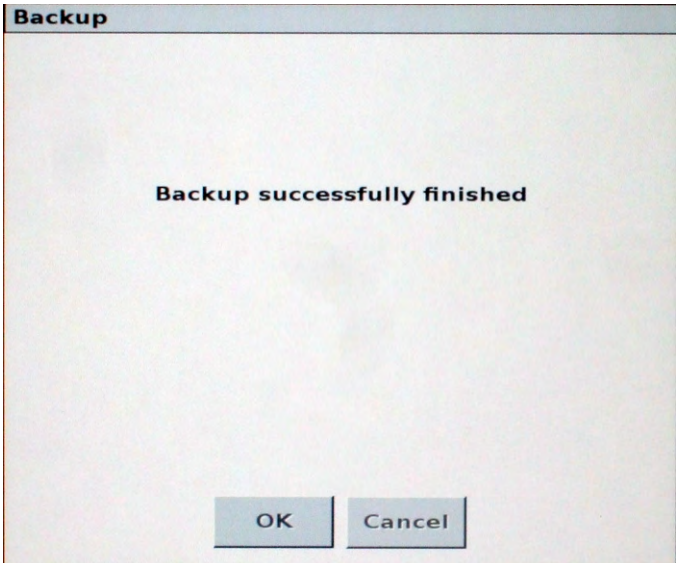


A dialog box with a progress bar monitors the backup.



TIP The OS image backup can take up to 30 minutes to complete.

9. This dialog box appears when the backup is finished.



10. Tap OK.

    You are returned to the BSS screen.

11. On the BSS screen, tap Shutdown to power down the terminal or Reboot to restart the terminal.

Restore the Operating System Image

To restore the operating system (OS) image on the MobileView 2711T terminal, perform the following steps.

IMPORTANT If you restore the OS image, then you remove any configured settings with the current image.

You need an external keyboard and a USB storage device (at least 32 GB) to back up the OS image.

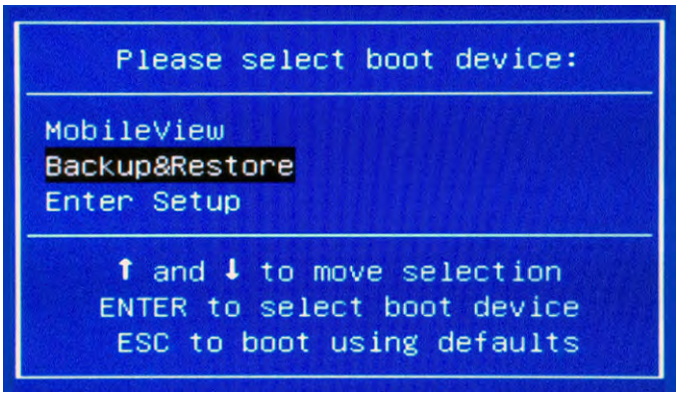
There is only one USB port on the back of the MobileView 2711T terminal, so Rockwell Automation recommends that you use a USB hub to connect both devices simultaneously.

1. Restart or power up the MobileView 2711T terminal.
2. Press F7 when the start-up screen appears.

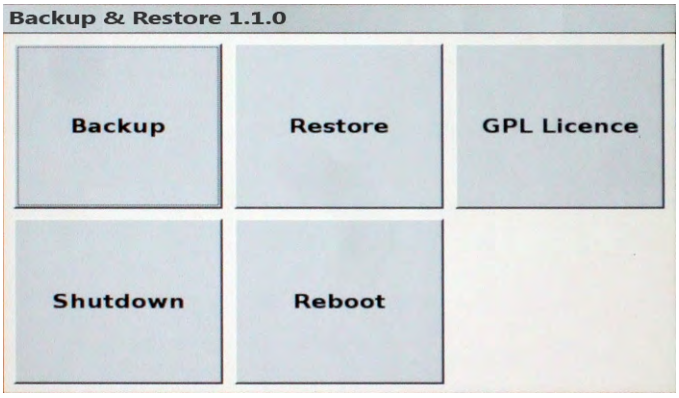
3. With the external keyboard, enter the BIOS password. See step 3 on page 47 for default passwords.

IMPORTANT The default passwords only work if you have not changed them through the steps in Change the BIOS Password on page 49.

4. On the boot device screen, toggle down to Backup and Restore, and press Enter on the keyboard.



The Bootable Service System (BSS) screen appears.



TIP The BSS screen can take up to 60 seconds to appear.

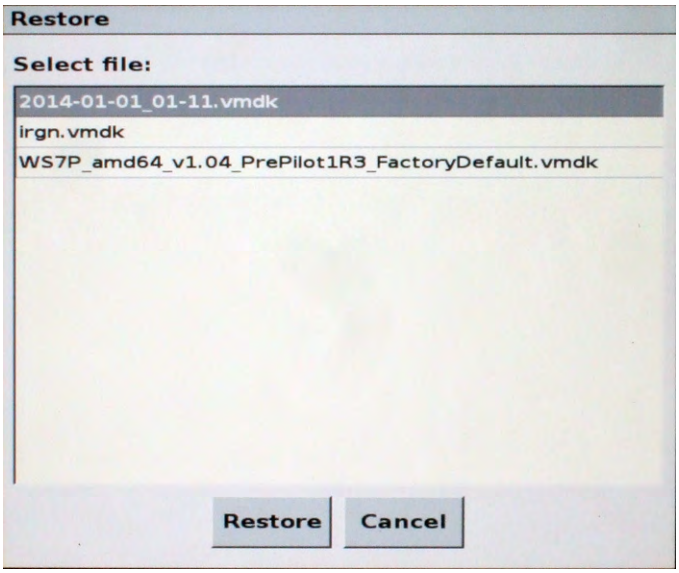
5. From the BSS screen, tap Restore.

   BSS automatically finds available files on the attached USB storage drive.

IMPORTANT Verify that the USB storage drive is formatted with NTFS and the drive contains an OS image from one of the following sources:

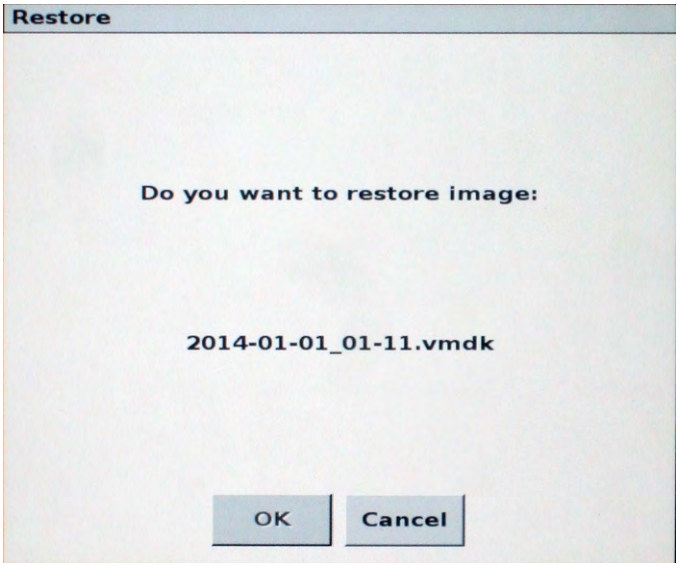
- From the VMDK files that are generated from the OS image backup that is detailed on page 51
- From an OS image with factory settings available from the Rockwell Automation Product Compatibility and Download Center: http://www.rockwellautomation.com/support/pcdc.page

6. Tap to select the appropriate file on the USB drive.



7. Tap Restore.

8. On the restore confirmation dialog box, tap OK.



A dialog box with a progress bar monitors the restoration.

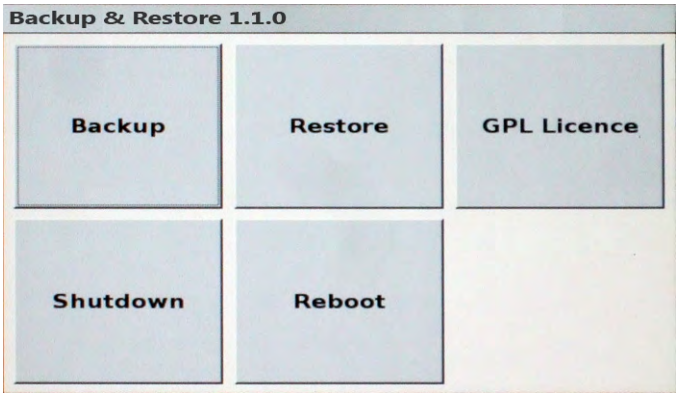
TIP The restoration can take up to 20 minutes to complete.

9. This dialog box appears when the restoration is finished.

10. Tap OK.

    You are returned to the BSS screen.

11. On the BSS screen, tap Shutdown to power down the terminal or Reboot to restart the terminal.



Maintenance and Troubleshooting

Chapter Objectives

This chapter provides information on the following topics:

- Clean the MobileView 2711T Terminal
- Handle the MobileView 2711T Terminal
- Chemical Resistance
- Real-time Clock Battery
- Dispose of the MobileView 2711T Terminal
- Troubleshoot the MobileView 2711T Terminal
- Provide Information to Technical Support

Clean the MobileView 2711T Terminal

For the touch screen, clean gently with a lint-free cloth. Dampen with a mixture of 50% water and 50% isopropyl alcohol. If needed, clean the unit daily when it is used in harsh environments.

For the housing, dampen a cloth with a mixture of 50% water and 50% isopropyl alcohol or a mild detergent. Do not use harsh cleaning additives.

Handle the MobileView 2711T Terminal

The MobileView 2711T terminal is a high-quality device that is equipped with state-of-the-art electronics.

To avoid malfunctions or damage through improper handling, follow these instructions during operation.

ATTENTION: Do not operate the terminal if the cable is damaged or pinched. To avoid damage to the cable, do not place the cable over or around sharp objects.

- When the terminal is not in use, hang the terminal in the mounting bracket or place inside a cabinet or enclosure.
- To avoid dropping the terminal, do not set the terminal on unstable surfaces and keep the cable clear of high traffic areas.
- To avoid damage to the operating elements, do not set the terminal on its operating side.
- If the terminal falls to the ground, test the emergency stop switch and enabling switch before operating the machine/plant.
- Do not set the terminal near heat sources and avoid direct sunlight.
- Do not expose the terminal to excessive mechanical vibrations, excessive dust, humidity, or strong magnetic fields.
- Prevent foreign objects or liquids from getting into the terminal. Check the protective covers of the device regularly. Make sure that all screws are firmly tightened and that the housing and cable entrance is not damaged.
- Turn off the power supply before you remove the back cover of the MobileView 2711T terminal. When the back cover is removed, the terminal is sensitive to electrostatic discharge (ESD).
- If the terminal exhibits any anomaly, have the unit thoroughly and fully tested by the manufacturer or authorized repair dealer before you operate the terminal again.

Chemical Resistance

MobileView 2711T terminals resist the following chemicals:

- Isopropanol
- Glass cleaner
- Multi-purpose grease
- General-purpose lubricants

Real-time Clock Battery

The MobileView 2711T terminal uses nonvolatile memory that requires a real-time clock (RTC) lithium battery to retain system information when power is removed. The battery has a 17-year life.

The RTC battery is soldered to the main circuit board, non-serviceable, and therefore not intended to be replaced during the life of the MobileView 2711T terminal.

Dispose of the MobileView 2711T Terminal

At the end of its life, the terminal must be collected separately from any unsorted municipal waste.

You cannot dispose of the MobileView 2711T terminal like other waste material. Most terminals contain heavy metals that can contaminate the earth. Therefore, check with local health and sanitation agencies for ways to safely dispose of the MobileView 2711T terminal.

Troubleshoot the MobileView 2711T Terminal

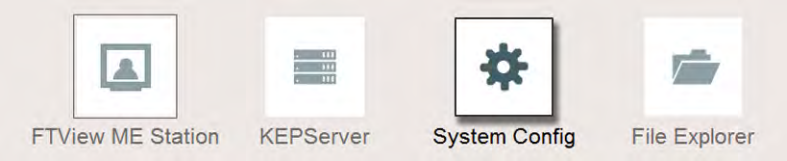
The following table lists possible anomalies that can occur with your terminal and solutions to the anomalies.

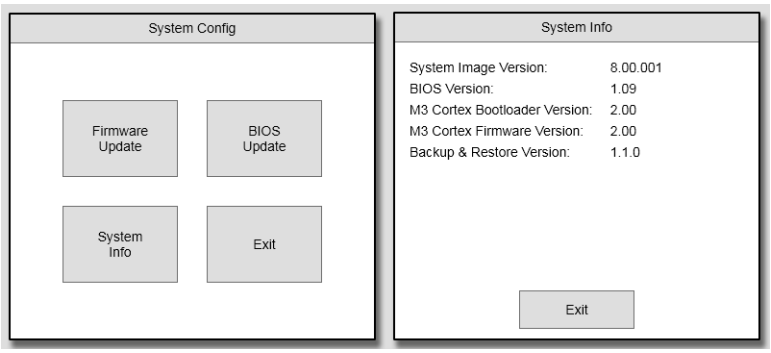
Anomaly	Solution	Page
Terminal will not power up	Check for 24V DC power on the X1 connector of the MobileView junction box.	25, 26
	Check for a solid connection between the MobileView connection cable and the cable connection of the junction box (X4).	26
	Check the terminal connections at X1 and X2 of the MobileView junction box.	27
	Check the terminal connections to the main control board of the MobileView 2711T terminal.	21
Terminal screen is dim or black	If the screen is readable: a. From the MobileView terminal desktop, tap Power Options. b. Adjust the screen brightness at the bottom of the window that appears.	29, 34
	If the screen is black: • Tap the touch screen or any of the keypad buttons to de-activate the screen saver. • Check power to the terminal. Follow instructions for anomaly, 'Terminal will not power up.' • If the screen is blinking or rapidly changing brightness, a corrupted registry or OS image can exist. a. Restore the OS image. b. If an OS image restoration does not correct the anomaly, contact Rockwell Technical Support.	 55 63
Difficulty with touch screen selections	The touch screen can be out of alignment. Recalibrate the touch screen.	46
Terminal screen is static (locked up). Touch screen and keypad activations do not initiate any changes.	Check Ethernet communications. See the next anomaly, 'Terminal does not communicate on Ethernet network.'	
Terminal does not communicate on Ethernet network	Check Ethernet cable connections at the MobileView junction box and your Ethernet hub.	24, 28
	Try to ping the MobileView 2711T terminal from a personal computer in your network to check for correct configuration settings, then check MobileView 2711T terminal settings.	44
	If you are using a DHCP server, check if the DHCP function is set in the network settings of the MobileView 2711T terminal.	44
	If you connect to the Ethernet network with fixed settings, verify that the IP Address, subnet mask, and default Gateway-network settings are correct in the MobileView 2711T terminal.	44
	Check the Ethernet connection on the MobileView 2711T terminal.	21
Program memory low	From the terminal desktop, tap File Explorer. Use File Explorer to clean up or delete unnecessary files.	34

Provide Information to Technical Support

To contact Rockwell Automation support, see the back cover. Be prepared to provide the following information:

- Detailed description of anomaly, including circumstances of when it occurred (for example, programs that were running and what steps were taken)
- Any steps taken to try to resolve an anomaly
- System information for the MobileView 2711T terminal:
  a. From the terminal desktop, tap System Config
  b. On the System Config dialog box, tap System Info





The system-image version number is most important, but other version information can also be helpful.

Notes:

Specifications

General

Attribute	Cat. No. 2711T-			
	T10R1N1	B10R1K1	B10R1M1	T10G1N1
Processor	Intel® Atom™ 3815, 1.46 GHz			
Operating system	Microsoft Windows Embedded Standard 7 SP1			
Memory	4 GB DRAM/32 GB Flash			
Display Size (in.) Color/resolution Resistive touch screen	 10.1 WXGA/1280 x 800 pixels Analog resistive			
Function keys	No	Yes		No
3-position enable switch	Yes			
2-circuit E-stop	Yes			No
USB drive slot	Yes			
Communication	10/100 Ethernet			
Dimensions	See page 9			
Weight	1550 g (3.42 lb) without options			

Electrical

Attribute	Cat. No. 2711T-			
	T10R1N1	B10R1K1	B10R1M1	T10G1N1
Rated supply voltage	24V DC			
Supply voltage tolerance range	19.2…30V DC (EN 61131-2)			
Input current	500 mA at 24V DC			
Peak inrush current	5.6 A (max)			

Environmental

Attribute	Cat. No. 2711T-			
	T10R1N1	B10R1K1	B10R1M1	T10G1N1
Operating temperature	0…45 °C (32…113 °F)			
Storage temperature	-25…70 °C (-13…158 °F)			
Relative humidity (noncondensing)	5...95% at 0…45 °C (32…113 °F)			
Vibration (operating)	5…150 Hz 5…8.4 Hz, 3.5 mm p-p 8.4…150 Hz, 1 G peak			
Shock (operating)	15 G (1/2 Sine, 11 msec) IEC 60068-2-27			
Altitude	0…2,000 m (0…6,562 ft)			

Accessories

Cat. No.	Description
2711T-5MCABLE	Connection cable (5 m/16.4 ft) to connect the terminal to the junction box.
2711T-10MCABLE	Connection cable (10 m/32.8 ft) to connect the terminal to the junction box.
2711T-15MCABLE	Connection cable (15 m/49.2 ft) to connect the terminal to the junction box.
2711T-JBIP20DC	IP20 junction box that is 24V DC powered and includes a junction box cap.
2711T-BRACKET	Mounting bracket for stationary operation or to store the terminal.

Standard and Agency Certifications

Region	Standards Group	Regulatory Standard[2]
Americas	Safety	cULus according to UL508, 17th edition, and CSA C22.2 No. 142
	UL	cULus Listed
	State of California	In accordance with California USA disclosure regarding any perchlorate content
	Environment[1]	RA Environmental Impact Report
Europe	Enclosure rating	IP65 per EN60529
	Safety	EN61131-2
	EMC	2004/108/EC
	Emissions	EN61131-2 EN61000-6-4
	Immunity	EN61131-2 EN61000-6-2
	RoHS	European RoHS 2011/65/EU Turkey RoHS (EEE Yönetmeliðine Uygundur. In Conformity with the EEE Regulation)
	WEEE	Waste Electrical and Electronic Equipment (WEEE) 2012/19/EU
	REACH	Regulation No. 1907/2006 of the European Parliament
	Machinery directive	2006/42/EC CE Mark
	EU battery directive	2006/66/EC WEEE 2012/19/EU
Asia Pacific	Emissions	AS/NZS 61000-6-4
	RoHS	China RoHS GB/T26572
	Product certification	China RoHS pollution control logo SJ/T11364-2006 RCM (formerly C-Tick) Korean Clause 3, Article 58-2 of Radio Waves Act 위 기자재는「전파법」제58조의2 제3항에 따라 등록되었음을 증명합니다.

有害物質名稱和和含量 - name and content of hazardous substances and elements

Component name 組件名稱	Toxic or hazardous substances and elements 有毒或有害物質和元素					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent Chromium (Cr VI+)	多溴聯苯 Polybrominated Biphenyls (PBB)	多溴聯苯醚 Polybrominated Diphenyl Ethers (PBDE)
外殼 housing	x	o	o	o	o	o
顯示器 Display 10.1" WXGA 1280x800	x	o	o	o	o	o
印刷電路板 Printed Circuit Board assemblies	x	o	o	o	o	o
金屬組件 metal components: Distinex	x	o	o	o	o	o
內核 CPU MODUL 700	x	o	o	o	o	o
固態硬碟 SSD 32GB Transcend mSATA MSA370	x	o	o	o	o	o
觸頭 contacts	x	o	o	o	o	o
接線和電纜 wiring cable	x	o	o	o	o	o
電池 Battery	o	o	o	o	o	o
塑料部件 plastic components	o	o	o	o	o	o

x = 浓度超出SJ-T11363-2006 规定的最大浓度值
x = concentration above maximum concentration values as defined per SJ-T11363-2006
o = 浓度低于SJ-T11363-2006规定的最大浓度值
o= concentration below maximum concentration values as defined per SJ-T11363-2006

(1) Rockwell Automation maintains current product environmental information on its website at http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page.

(2) See http://www.rockwellautomation.com/certification for declarations of conformity, certificates, and other certification details.

Rockwell Automation

EU Declaration of Conformity

Product:	***Teach Pendant with E-Stop and Enabling Switch***

Name and address of the manufacturer:	*Name and address of the authorised representative:*
Rockwell Automation, Inc.	***Rockwell Automation B.V.***
1201 South Second Street	***Rivium Promenade 160***
Milwaukee, Wisconsin 53204	***2909 LM Capelle aan den Ijssel***
USA	***The Netherlands***

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:	***Allen-Bradley MobileView 2711T Series*** *(reference the attached list of catalogue numbers)*

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

2004/108/EC & 2014/30/EU	*EMC Directive*	*(EMC)*
2006/42/EC	*Machinery Directive*	*(MD)*

References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:

EN 61131-2:2007	*Programmable Controllers – Equipment requirements and tests (pertinent EMC sections)*
EN ISO 13850:2008	*Safety of Machinery – Emergency stop – Principles for design*
EN 60204-1:2006 + A1:2009	*Safety of Machinery – Electrical equipment of machinery – Part 1: General requirements*
EN ISO 12100:2010	*Safety of machinery – General principles for design – Risk assessment and risk reduction*

Additional information:

Person authorised to compile the technical file (MD):	*Authorised representative (see details above).*
Product Safety Function (MD):	*Direct opening action with normally-closed contacts for emergency stop devices and 3-position enabling switch to ensure safe operation during potentially hazardous conditions.*

Signed for and on behalf of the above named manufacturer:

Place and date of issue:	*Milwaukee, WI USA*	*14-May 2015*
Name, function:	*Daniel L. Nachtigall, Technical Leader – Product Certification Engineering*	
Signature:	Daniel L. Nachtigall	

Catalogue number	***Series*** [1]	***Description***	***Directive*** [2]	
			EMC	***MD***
2711T-B10R1K1	*A*	*10-inch teach pendant w/E-Stop and enabling switch, touchscreen and multifunction keypad display, 24Vdc*	*Yes*	*Yes*
2711T-B10R1M1	*A*	*10-inch teach pendant w/E-Stop and enabling switch, touchscreen and multifunction keypad display, 24Vdc*	*Yes*	*Yes*
2711T-T10G1N1	*A*	*10-inch teach pendant w/enabling switch and stop button, touchscreen-only display, 24Vdc*	*Yes*	*Yes*
2711T-T10R1N1	*A*	*10-inch teach pendant w/E-Stop and enabling switch, touchscreen-only display, 24Vdc*	*Yes*	*Yes*
Accessories				
2711T-JBIP20DC	*A*	*Junction box, IP20, 24Vdc*	*N/R*	*N/R*
2711T-#MCABLE	*A*	*Teach pendant to junction box cable, where # denotes cable length*	*N/R*	*N/R*

1) *If no series number is given, then all series are covered*
2) *No = Product is not certified to this directive.*
Yes = Product is certified to this directive.
N/R = This directive is not required for this product

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Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At http://www.rockwellautomation.com/support you can find technical and application notes, sample code, and links to software service packs. You can also visit our Support Center at https://rockwellautomation.custhelp.com/ for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates.

In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/services/online-phone.

Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/rockwellautomation/support/overview.page, or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to help ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication RA-DU002, available at http://www.rockwellautomation.com/literature/.

Rockwell Automation maintains current product environmental information on its website at http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page.

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